

**DEVELOPMENT AND OPERATIONS OF THE  
ASTROPHYSICS DATA SYSTEM**

**NASA Grant NCCW-0024**

**Semi-Annual Report Report No. 1  
and  
Semi-Annual Report Report No. 2**

**For the period 1-October 1992 through 31 March 1993  
and**

**For the period 1-April 1993 through 31 September 1993**

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**November 1993**

**Prepared for**

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## **Summary:**

This are the first and second semi-annual reports for the ADS project. The ADS project had 1386 registered users as of 30-September. In September, 1993 we had 4679 logins by 354 different users. These users issued 6264 queries and retrieved 45886 data items. Following are more detailed reports for the period from 1-October -1992 to 30-September-1993.



## **ADS Project activities for October 1992**

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Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 November, 1992

### SUMMARY

Again the main effort in this period was for the development and of the ADS 3.1 graphical interface (GUI) and the preparation for its release. The beta-release for the GUI has been made available to the nodes for testing. Development of the Abstract Server is progressing satisfactorily. A test version was prepared for the ADASS meeting.

Another major effort was the preparation for the user and nodes meetings on 5 and 6 November and for the ADASS conference on 2-4 November. We expected about 30 participants for the user and nodes meeting.

Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 November, 1992

## ADMINISTRATIVE

### TASKS ACCOMPLISHED:

Preparation for the release of ADS 3.1 on 23 November continued. The beta test version of the graphical user interface (GUI) was released and is being tested by ADS project participants and selected nodes. Updates to the beta release are being distributed once a week. An updated version of the underlying EOS kernel was released.

We prepared for the demonstration at the ADASS conference and for the nodes and users meetings after the conference.

The MOU with HEASARC was signed. MOU's with NSSDC, EUVE and IUE are in preparation.

Discussions with different data centers were held in order to explore the feasibility of including them in the ADS system. These include:

National Institute for Standards and Technology (NIST):	atomic and molecular data
NRAO	observation logs and maps
HEASARC	ROSAT archive data

Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 November, 1992

## ADMINISTRATIVE

### LAST MONTHS PROBLEMS/CONCERNS:

#### *CASA/User Support:*

We are concerned about the shared memory issue and instructing our users on rebuilding their Unix kernels to include shared memory as part of the ADS 3.1 installation.

A: This is a problem that we cannot completely resolve. We will have to rely on the system managers that maintain the user systems to install shared memory. We cannot deliver kernel rebuilding instructions.

#### *HEASARC/Node:*

We are still concerned with the occasional crash of the ADS server for no apparent reason. We have investigated several server crashes without finding any answer for the occurrence. The rate of crashes appears to be correlated with the system demand; the new node having much less demand than the old node.

A: We hope that the updates of the beta release will become more and more stable. Please let us know if you still experience problems.

We are still concerned about the new Version 2.0 SQL server and its handling of FITS formats. It would be nice to be kept apprised of its design and development. We feel that it may be a waste of time to deliver new databases to ADS, if the possibility exists that they will have to be changed in the future. It would also be nice to know what has been discussed concerning the interface program between the database and Version 2.0 SQL server. See also the previous 'Problems and Concerns' from the August 1992 report.

A: Some of this has been addressed at the nodes meeting on 5 November. If you need more information, please contact John Good at IPAC (jcg@ipac.caltech.edu). He is responsible for the design of servers etc.

It would be nice to see responses to each 'Problem and Concern' by the next reporting period, either as an addendum to that report or included in the next report. Even a brief response, such as "So and so have discussed this." or "We are considering doing such and such." would be appreciated. An example is not knowing what the new FITS server will be like.

A: This has been implemented because of this suggestion.



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 November, 1992

## SYSTEM ENGINEERING

### TASKS ACCOMPLISHED:

During the month of October the Project concentrated on consolidation of the work done over the summer on user interface and distributed processing tools. A complete user system was released to the nodes for beta testing and much of the system engineering, QA, and system integration manpower was focussed on refining that system in preparation for the November release to the general users. For a more complete discussion of the beta testing results, see the QA report.

Design work continued during this month on aspects of the system relating to service portability and operability. It is our desire to construct the service interface architecture in such a way that individual services will be reasonably discreet, so that installation of a service depends only on having the service "package" and the basic system and does not involve any complicated installation process or modification of basic system elements. The details of this are still being worked out and the final implementation details will be covered here in the future.

The question of operability revolves around capabilities that we eventually expect to find in the basic OSF DCE/DME (Open Software Foundation Distributed Computing Environment / Distributed Management Environment). Unfortunately, our need for these tools precedes any official release by at least a year (and on all the platforms we need to support by perhaps as much as two years). Consequently, we have been discussing the design for a system based on what we currently have and which will approximate the basic functionality of DME required to run our system in the interim. This also is work in progress and will be covered in more depth in the future.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 November, 1992

### SER COMMITTEE

#### **PSU:**

#### **TASKS ACCOMPLISHED:**

Here were the Penn State activities for the month of October. The primary activity was preparation for the third ADS user meeting held Nov. 5 in Boston. J. Nousek prepared an agenda, and sent invitations to the general user community and specifically contacted the key target users. W. Donley arranged travel and purchased air travel tickets for 6 attendees.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 November, 1992

## USER SUPPORT

### **CASA:**

#### **TASKS ACCOMPLISHED:**

##### **User Support:**

User support statistics for the month:

- New Users: 11 new users were registered during October.
- User support inquiries for ADS 2.0: 0 reported
- User support inquiries for ADS 3.1 beta:  
Continuous reporting from the nodes including bug reports, enhancement requests, installation questions, and user questions. Approximately 25 inquiries to ADS QA were logged during October.

Sally Schaller is the first point of contact for responding to feedback from the nodes during the beta test period. Sally acknowledges receipt of the message from the sender, determines if it is a bug, enhancement request, or user error. Bugs and enhancement requests are logged in EOS tables used to track and manage this information. All correspondence with users are maintained in xmh mail folders.

##### **Documentation**

The ADS 3.1 beta release included the ads on-line help documentation available through the ADS help widget, an installation guide (INSTALL), a README file with information about access, release notes, and a QuickStart guide. The final version of the ADS 3.1 PostScript User's Guide will be available for the final ADS 3.1 release during the week of November 23, 1992.

##### **Miscellaneous**

The final version name of the ADS GUI to be released to the the general users during the week of November 23 will be ADS 3.1.

#### **WORK IN PROGRESS AND PROJECTED COMPLETION DATES:**

##### **User Support:**

These are the tasks that are currently being worked on as part CASA's effort in User Support:

- Maintain and update ADS users database (EOS table).
- Compile kadmin on the DECstation 5000. Expected completion date 11/30/92
- Continued work on setting up AnswerGarden to work with mh for managing User Support inquiries. Expected completion date 1/30/93
- Continued work on using xwais to browse our user support inquiry files. Expected completion date 1/30/93
- Updates to the bug/enhancement requests databases including:
  - ADS 3.1 bugs
  - EOS 3.1 bugs
  - ADS 3.1 Enhancement Requests
  - EOS 3.1 Enhancement Requests
  - Unresolved Problems \_ either can't reproduce or a user error

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 November, 1992

## USER SUPPORT (Cont'd)

### CASA (Cont'd):

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (Cont'd):

##### Documentation

- ADS 3.1 documentation: This includes
  - ADS 3.1 user's guide (beta) - 11/16/92
  - ADS 3.1 on-line help (beta) - 10/15/92
- User Support Operations manual - ongoing
- Documentation for the remote function serve package - 11/30/92
- Documentation for the trader package - 11/30/92

##### Miscellaneous

- Obtain and/or update exhibit structure - ongoing Immediate deadlines are for the 1/3/93 AAS meeting.
- Create promotional materials for upcoming meetings - ongoing Immediate deadlines are for the 11/5 and 11/6 Node and Users meetings in Boston and the 1/3/93 AAS meeting.
- Contributions to the ADS Newsletter.
- Updates to the final release directory structure in order to better coordinate the release process between QA and Operations.

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

##### User Support:

- The evaluations for using AnswerGarden and/or xwais as part of our inquiry tracking system will be completed.
- A bug tracking system will be in place to handle feedback from the ADS 3.1 beta release.

##### Documentation

- All of the ADS 3.1 documentation will be completed.
- A rough draft of the ADS Developer's Guide will be completed.

#### PROBLEMS/CONCERNS:

##### Documentation

The first version of the ADS 3.1 User's Guide will not have multiple examples. We would like to include more example science scenarios as time and human resources permit.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 November, 1992

## TEST AND QA

### CASA:

#### TASKS ACCOMPLISHED:

Internal testing of the ADS 3.1 GUI interface as part of the ADS 3.1 beta release was completed and is ongoing in preparation for the final ADS 3.1 release.

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- A revised release schedule for EOS software has been announced by Ellery as follows:
  - 20-Oct-92: EOS 3.1 Software release (beta)
  - 20-Nov-92: EOS 3.1 Software release (Final including Docs)
- The current ADS 3.1 release schedule is as follows:
  - 12-oct-92: ADS 3.1 pre-beta release to internal ADS staff
  - 15-oct-92: ADS 3.1 GUI integration complete
  - ADS 3.1 beta release test/qa complete
  - ADS 3.1 documentation drafts complete
  - (on-line help and release docs only)
  - ADS 3.1 beta release to the nodes
  - 23-oct-92: ADS 3.1 beta update with EOS 3.1 software
  - 5-nov-92: ADS 3.1 beta release feedback from the nodes
  - (at nodes meeting in Boston)
  - 20-nov-92: ADS 3.1 (final) release from QA to Operations
  - 24-nov-92: ADS 3.1 (final) release from Operations to Users
  - 3-jan-93: demo ADS 3.1 at the Phoenix AAS meeting (3-7 Jan 93)
  - strong push to register new users
- Delivery of the remote function server package to operations has been postponed until after the final release of the ADS 3.1 is successfully delivered.
- Delivery of a trader package to operations has been rescheduled until after the final release of the ADS 3.1 is successfully delivered.
- New catalogs that will be QA'd for the ADS 3.1 final release:  
 (In the future, new catalogs will be given a priority ranking according to members of the ADS User's Committee with John Nousek acting as coordinator.)

iuefes	Node=IUE; Updating and modifying the old FES catalog and renaming it to IUEFES
iuelog	Node=IUE; Updating and modifying the old IUELOG catalog
iueprog	Node=IUE; Renaming the PROG catalog to IUEPROG
saohddm	Node=NSSDC; SAO/J2000/HD/DM/GC Cross Index

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 November, 1992

## TEST AND QA (Cont'd)

### CASA (Cont'd):

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (Cont'd):

- If resources are available, the following catalogs will also be included:
 

rad_6cii	Node=SAO;The 6C II Survey of Radio Sources at 151 MHz
rad_7cm	Node=SAO;The 3.9 GHz Survey between Declinations 0 and 14 degrees
rad_a2218	Node=SAO;408/1407 MHz Survey of A2218 (5C20)
rad_a262	Node=SAO;327 MHz Survey of Abell 262
rad_a1314	Node=SAO;Radio Surveys Towards A1314 at 408 MHz and 1420 MHz
rad_b3_408	Node=SAO;Bologna Sky Survey at 408 MHz (B3)
rad_mit_gb1	Node=SAO;The MIT-Green Bank 5 GHz Survey I (0 to 20 deg)
rad_mit_gb2	Node=SAO;The MIT-Green Bank 5 GHz Survey II (4 to 21 h, 17 to 39 deg)
rad_mit_gb3	Node=SAO;The MIT-Green Bank 5 GHz Survey III (5 to 16.5 h, 17 to 39 deg)
rad_mit_gb4	Node=SAO;The MIT-Green Bank 5 GHz Survey IV (2.5 to 15.5 h, 37 to 51 deg)
rad_mrc_408	Node=SAO;The Molonglo Reference Catalog of Radio Sources at 408 MHz
rad_n_eclpol	Node=SAO;Survey Around the North Ecliptic Pole at 11 cm
rad_wb92	Node=SAO;20 cm Northern Sky Catalog (White and Becker)
ros_ao2time_2m	Node=SAO;ROSAT AO2 Timeline - April 1992 to June 1992
ros_yellowbook	Node=SAO;The ROSAT Yellow Book - March 1992
- hd.dat                    Henry Draper Catalog
- gcvs.dat                General Catalog of Variable Stars
- nsv.dat                New Catalog of Suspected Variable Stars
- agk3.dat               AGK3 Star Catalog
- cns3.dat               Catalog of Nearby Stars, 3rd Ed
- dmsort.dat             SAO-HD-GC-DM Cross Index, DM Sort
- saosort.dat            SAO-HD-GC-DM Cross Index, SAO Sort
- rasort.dat            SAO-HD-GC-DM Cross Index, RA/Dec Sort
- lineids.dat            Identification List of Lines in Stellar Spectra
- selected.dat           Catalog of Selected Clusters
- lbn.dat                Lynds' Catalog of Bright Nebulae
- ldn.dat                Lynds' Catalog of Dark (oooohh) Nebulae
- pln.dat                Strasbourg Galactic Planetary Nebulae
- reflect.dat            Catalog of Reflection Nebulae
- snr.dat                Catalog of Supernova Remnants
- do.dat                Dearborn Observatory's Catalog of Faint Red Stars
- bestars.dat            Catalog of Be stars
- carbon.dat            General Catalog of Cool Galactic Carbon Stars
- emline.dat            Wackerling Catalog of Emission Line Stars
- poss.dat               Palomar Observatory Sky Survey
- mhd1.dat               Michigan Catalog of 2-D Spectral Types, Vol 1

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 November, 1992

### TEST AND QA (Cont'd)

#### CASA (Cont'd):

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (Cont'd):

mhd2.dat	Michigan Catalog of 2-D Spectral Types, Vol 2
mhd3.dat	Michigan Catalog of 2-D Spectral Types, Vol 3
mhd4.dat	Michigan Catalog of 2-D Spectral Types, Vol 4
assoc.dat	Catalogue of Star Clusters and Associations
globular.dat	Globular Cluster Catalog
rc3	3rd Reference Cat of Bright Galaxies
mngc	Rev. Cat of Nonstellar Astron. Objects
lrs_dutch	The Dutch Low Resolution Spectra Catalog:needs .xmp file
lrs_dutch_asso	The Dutch Low Resolution Spectra Associations Catalog
lrs_dutch_flux	The Dutch Low Resolution Spectra Fluxes Catalog
lrs_volk	The Volk Low Resolution Spectra Catalog
lrs_volk_asso	The Volk Low Resolution Spectra Associations Catalog
lrs_volk_flux	The Volk Low Resolution Spectra Fluxes Catalog
lrs_wavelength	The Low Resolution Spectra Wavelengths Catalog

- Update of ads documentation. This will include the Advanced Tutorial and the ADS User's Guide to reflect the new GUI environment. November 16, 1992.
- Test plan development for the new server architecture. This will involve the development of test applications and programs. A hands-on server workshop is in the planning stages for early 1993.
- Status report generation programs (dependent on the new servers). This server application will be based on the EOSserver prototype application to be delivered by Ellery in August. Anticipated completion end of January, 1993.

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Final release of the ADS 3.1 GUI and the EOS 3.1 software to the users. Week of November 23, 1992.
- Continued testing of the ADS 3.1 GUI code and the EOS 3.1 beta release with some limited testing of the new server architecture.
- Continued testing and QA of the new catalogs coming on-line for the final release of the ADS 3.1
- QA and testing of the Abstract server as it becomes available.
- QA and testing of Archive servers as they become available.

#### PROBLEMS/CONCERNS:

Our experience with the ADS 3.1 beta release has shown that there are not enough adequate testing tools to fully test all of the ADS and the EOS software. The beta test period was very helpful in finding more problems. We will need to continue to work with Ellery to develop these testing tools as schedules and human resources permit.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 November, 1992

## SYSTEM INTEGRATION

### TASKS ACCOMPLISHED:

The primary work at Ellery during October has been two-fold: continued work, on core ADS software and working with the CASA user interface group on the ADS 3.1 graphical user interface.

An interim core software release was made to ADS QA at CASA on 21 October. Bug fixes, testing and minor enhancements continued through the month of October, including an interim software release to the ADS project on 21 October. These included:

- Changing timeout period that EOS kernel and UI server wait for each other to start before exiting on error. This resolves problems when running ADS on a remote display which is geographically a large distance from the client machine.
- Log files from various server parts were being created with world read and write permissions. This has been changed to use the local environment defaults for creating files.
- Changes in UI protocol implementation that cleaned some unnecessary refreshes of the screen if some lines in a window haven't changed.
- Changes were made in the UI server to cure initial window size problems for ADS results editor windows.
- Fix to cure "Cannot convert string" warnings on DECstations running the UI server.
- Fix in getting pseudo resources: if Motif functions to get child widgets were called and an improper type of widget was passed, Motif crashed--checks were added to avoid these problems.
- Minor change to deal with odd way Motif deals with keymapping.
- Bug located and repaired on HP's that prevented many widgets from being raised all at once.
- Modified UI server to support case insensitive searches in Motif text widgets.

Preliminary copies of EOS documentation (Programmers Reference Guide, Function Reference Guide, and Distributed Processing Reference Guide) were made available to ADS development team for review and comment. Additionally, all versions of the documentation was delivered with the October 21 release.

The group of CASA personnel working on the new ADS 3.1 Graphical User Interface (GUI) have been at the Ellery offices in order to have easier access to information and on-site help throughout the month. Involved are Alice Bertini, Michelle Neves and Gregg Allison.

Brett Milash, Kyle Habermehl and Jeff Stoner have been assisting the CASA GUI group in work on the ADS 3.1 interface towards internal project and beta site releases made in October. This assistance includes providing technical information, building widgets and C-Line code, and developing an interface to the HEASARC browse facility.

Brett Milash and Kyle Habermehl have also been providing assistance to Todd Karakashian and Carolyn Stern Grant as they work on the ADS abstracts service. Carolyn visited Ellery for a week to help with work on the ADS 3.1 interface testing and also continue work on the abstracts service prototype.

Guenther Eichhorn visited Ellery on 22 October for status meeting which included discussions and planning for AAS node and user education, training, newsletter, January AAS show, the AADAS conference, CASA public relations efforts, software release schedules, development schedules, CASA activities.



Initial ADS Demonstration package was put together for AADAS and AAS meetings which incorporated IPAC Skyview package provided by John Good.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (FSI)

Status as of: 1 November, 1992

### SYSTEM INTEGRATION (Cont'd)

#### TASKS ACCOMPLISHED (Cont'd):

Other minor support was also provided to ADS Operations at IPAC and the data node at CASA.

Project management, reporting and planning support were also done for the ADS by Geoff Shaw, Jeff Jordan, Nathan Vanderhoofven, and Jeff Stoner.

#### ANTICIPATED ACTIVITIES FOR THE NEXT REPORTING PERIOD

- final release of all core software to ADS QA at CASA coincident with their beta release.
- provide technical assistance to CASA group working on ADS 3.1 user interface.
- on-site support of CASA staff will continue through November.
- support for the November user and node meetings will be provided.
- planning for ADS GUI debut and demonstrations at the January AAS meeting in Phoenix.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 November, 1992

## DEVELOPMENT

### SAO

#### TASKS ACCOMPLISHED:

##### Abstract Service:

- Succeeded in getting Abstracts Service working from start to finish for queries.
- Changed abstract server from a local server to a remote server.
- General improvements to Abstract Service code.

##### General Development:

- Installation of ADS 3.1 Beta release and all updates on SUN, HP and DECstation platforms.
- Submitted bug reports on all 3 platforms.
- Read Ellery's Distributed Processing Guide and Programmer's Reference Guide and sent editorial comments to Ellery.
- Retrieved and installed SQLserver package (v1.5) from IPAC.
- Worked with Ellery to track bugs in sms server.
- Installed IDL server running in Cambridge so that plotting from the ADASS meeting in Boston would be stable for demonstrations.
- Created table of positions, sequence numbers, file sizes, and file locations for the Einstein HRI CDROMS in preparation for incorporation into an Archive Server.

##### ADS User interface

- Added functionality to cycle through selected abstracts.
- Added error messages and working cursors throughout.
- General improvements to Abstract Service user interface.

##### Miscellaneous

- Worked in Boulder for a week to help test the ADS 3.1 beta version before release to the nodes.
- Worked extensively with new user, Susan Murray, so that she could help test abstract server and make plots and viewgraphs for Mike Kurtz's talk at the ADASS meeting.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 November, 1992

## DEVELOPMENT (Cont'd)

### CASA

#### TASKS ACCOMPLISHED:

- Development of the ADS 3.1 GUI continues. A pre-beta release was sent to the internal ADS project members at SAO, IPAC, CASA, and Ellery on October 12. The beta release was made available to the members of the ads-nodes@ipac.caltech.edu exploder list on October 15 through the authenticated ftp account at IPAC. Weekly updates to the beta release were announced and made available on Friday, 11/23, and Friday, 11/30. These beta updates reflected bug fixes and enhancements reported to ADS QA by the beta testers.

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Continued testing and bug fixing of the ADS GUI for the ADS 3.1 release. Testing and enhancements include:
  - the relational widgets and their underlying functionality
  - modifications to the catalog access tool to include a multi-access option (i.e. fanout)
  - consistency checking on all the widgets for button and menu layouts. (more bugs and enhancements are listed in the EOS table databases maintained at CASA)

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Continued bug fixes and ADS 3.1 beta updates will be delivered as feedback from the ADS 3.1 release is received up until the final release.
- More science scenarios will be compiled, tested, and documented.
- A DIP (Design Initiative Proposal) will be submitted to the systems engineer for incorporating LDC (Data Dictionary) tables into the ADS.

#### PROBLEMS/CONCERNS:

The ADS Developer's Guide needs to address a lot of development issues that have never been clearly agreed upon by the project. For example, naming conventions for resources and C-lite code. General guidelines can be imposed but project policy on design is yet to be determined.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 November, 1992

## OPERATIONS

### ADS USER/USAGE STATISTICS:

	IPAC2	IUE	PSU	SAO	HEASRC	STSCI	CASA
startup :	7	8	1	11	0	4	3
query :	107	46	39	82	3	54	210
schema :	96	43	33	82	3	53	197
retrieve:	983	1594	139	355	4	128	1912
abort :	97	40	38	80	3	51	196
report :	2829	2209	1761	2048	2075	2236	1975

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 November, 1992

**SUPPLIERS OF DATA**

**CASA**

**TASKS ACCOMPLISHED:**

Nothing to report.

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Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 November, 1992

Achievement: \_\_\_\_\_ E. Olson (CEA/Berkeley)

**SUPPLIERS OF DATA (Cont'd)****CEA****TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 November, 1992

Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

**SUPPLIERS OF DATA (Cont'd)****HEASARC/GSFC****TASKS ACCOMPLISHED:**

Nothing to report.



Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Mazzarella (IPAC)

Status as of: 1 November, 1992

## SUPPLIERS OF DATA (Cont'd)

### IPAC/CALTECH

#### TASKS ACCOMPLISHED:

Over the past two months, the catalogs listed below were reloaded into Sybase with a consistent set of equinox J2000 and B1950 equatorial coordinates. The ADS views to these catalogs are available, and they can be put on-line as soon as the ADS group has updated the documentation to reflect these changes. We note that for NSSDCA CD-ROM catalogs without Galactic coordinates, we have added Galactic coordinates using an algorithm that utilizes proper motion information when it is available in the catalog of question. For our near-term requirements of positional comparisons with IRAS sources, we convert coordinates to epoch 1983.5 when proper motion information is available. This includes the fk5, sao2000, and gcvs catalogs. (Much later, as the 2MASS project progresses, we will be converting to epoch 2000 for catalogs with proper motion information.)

<u>Name</u>	<u>Description</u>
_4c	Fourth Cambridge Radio Survey Catalogue
bsc5p	Bright Star Catalog, 5th Ed. (prelim), data
cio	Catalog of Infrared Observations, Main Data
cns3p	Cat. of Nearby Stars, 3rd ed. (preliminary)
do	Dearborn Observatory Cat. of Faint Red Stars
fk5	Fifth Fundamental Cat., Basic Fundamental Star
gcvs	General Catalogue of Variable Stars, 4th Ed.
irasfsc	IRAS Faint Source Catalog
irasfscr	IRAS Faint Source Rejects
irasgal	IRAS Extragalactic Catalog
iraspsc	IRAS Point Source Catalog - v2.1
iraspschcon	IRAS Point Source Catalog with HCON and WSDB Info
iraspscr	IRAS Point Source Rejects
iraspscwsdb	IRAS Point Source Catalog with WSDB Info
irassc	IRAS Serendipitous Survey
irasss	IRAS Small Scale Structures
john_mean	UBVRI Photometric Cat., Johnson Means
john_obs	UBVRI Photometric Cat., Johnson Observations
john_ref	UBVRI Photometric Cat., Johnson References
ngc2000	NGC2000.0 by J.L.E. Dreyer
phnearby	Photometric Data for the Nearby Stars
phnearby_sys	Photometric Data for the Nearby Stars, Systems
qsoagn_agn	Cat. Quasars & Active Galactic Nuclei, AGN
qsoagn_bl	Cat. Quasars & Active Galactic Nuclei, BL Lac
qsoagn_qso	Cat. Quasars & Active Galactic Nuclei, Quasars
qsoagn_ref	Cat. Quasars & Active Galactic Nuclei, Ref Fil
rafgl	Revised AFGL IR Sky Survey, Primary Data
rc2	Second Reference Catalog of Bright Galaxies
redshift	CFA Redshift Catalogue, Main Data File

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Mazzearella (IPAC)

Status as of: 1 November, 1992

### SUPPLIERS OF DATA (Cont'd)

#### IPAC/CALTECH (Cont'd)

#### TASKS ACCOMPLISHED (Cont'd):

rngc	RNGC main data file
sao2000	SAO J2000 Star Catalog
seyfert	Seyfert Galaxies, data
seyfert_ref	Seyfert Galaxies, references
tmss	Two-Micron Sky Survey
ubvmeas	Cat. Homogeneous Measurements in UBV System
ugc	Uppsala General Catalogue of Galaxies
zone	Yale Zone Catalog, Basic Data
zone_add1	Yale Zone Catalog, Addenda for +85 to +90 deg
zone_add2	Yale Zone Catalog, Addenda for -30 to +20 deg
zone_add3	Yale Zone Catalog, Addenda for -50 to -30 deg
zone_add4	Yale Zone Catalog, Addenda for -70 to -60 deg
zone_add5	Yale Zone Catalog, Addenda for -90 to -70 deg
zone_gcvs	Yale Zone Catalog, Stars in the GCVS
zone_notes	Yale Zone Catalog, Notes
zone_wds	Yale Zone Catalog, Stars in the WDS

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ P. Lawton (IUE/GSFC)

Status as of: 1 November, 1992

### SUPPLIERS OF DATA (Cont'd)

#### IUE/GSFC

##### TASKS ACCOMPLISHED:

- IUE installed and began testing of ADS 3.1.
- IUE rewrote the IDL Version 2 statistics software to allow for compatibility with the new format of the SQLserver log.
- IUE updated the new IUEFES and IUELOG (currently MINILOG) tables.

##### WORK IN PROGRESS:

- IUE is testing ADS 3.1.
- IUE is preparing for two members of the task to attend the ADS Users and Nodes meetings in Boston.

##### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Two members of the task will attend the ADS Users and Nodes meetings in Boston.
- IUE is awaiting the arrival of the upgraded boot proms. Once they arrive and are installed, IUESN1's operating system will be upgraded to 4.1.2.
- IUE's version of Ingres will be upgraded to 6.4/02.

##### ADS USER/USAGE STATISTICS:

query	46
retrieve	1594
schema	43
status	43
abort	40
report	2209
export	16
export_failure	0
startup	8
withdraw	14
shutdown	7
query making users	11
total users	16

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 November, 1992

### SUPPLIERS OF DATA (Cont'd)

#### PSU

#### TASKS ACCOMPLISHED:

A. Wilcox maintained the ADS user node and installed and made comments on three ADS 3.0 beta-test releases at Penn State. V. Farwana and J. Nousek also tested the system and made comments. V. Farwana continued work on improving the HEAO-1 data documentation.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ M. Garcia(SAO)

Status as of: 1 November, 1992

### SUPPLIERS OF DATA (Cont'd)

#### SAO

#### TASKS ACCOMPLISHED:

- Continued documentation of radio catalogs to be included with next ADS release.  

rad_11cm_allsky	# All Sky Catalog of Extragalactic Radio Sources at 2.7 GHz
rad_3cr_id	# Third Update of 3CR Sources; Optical Id's and Redshifts
rad_6civ	# The 6C IIV Survey (151 MHz) (Declination: 67deg-82deg)
- Added new ROSAT table of A02+A03 timeline of OBI's, ros\_time\_a02\_3.
- Added new category to einline so that Fabbiano's galaxy tables can be incorporated into einline and ADS. Will possibly include the first of these with the Nov. release:  

gal_xry_atlas	# Observation Information For The EINSTEIN Galaxy Catalog
---------------	---
- Made corrections to radio data files so that they can be read into Ingres properly.

#### WORK IN PROGRESS:

We are continuing to add new radio catalogs into our database and also documenting them. We have been adding approximately one every week, however, we have run into a disk space problem which needs to be addressed before more catalogs can be entered.

We will also add the flux table for the einstein galaxy catalog as soon as we receive documentation from the suppliers of the data.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ A. Farris (STScI)

Status as of: 1 November, 1992

### **SUPPLIERS OF DATA (Cont'd)**

#### **STScI**

##### **TASKS ACCOMPLISHED:**

The Archived Exposures Catalogs, HST Long Range Plan, and HST Completed Science Observations were updated.

##### **WORK IN PROGRESS:**

The project to develop an ADS and DMF Catalog interface is continuing.

The new SQLserver and srvadm programs for node administration are being investigated. Especially important is their compatibility with the new Sun operating system, Solaris 2.1.

## **ADS Project activities for November and December 1992**

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Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 January, 1993

### SUMMARY

The major efforts in December were for the preparation for the strategy review and the AAS meeting.

Usage of the ADS started to increase due to our presentation at the ADASS meeting and the introduction of the GUI.



Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 January, 1993

## ADMINISTRATIVE

### TASKS ACCOMPLISHED:

The Strategy Review Panel presentation was made on Dec. 14. The Project Scientist and Project Manager made the presentation. The ADS was allowed about 10 minutes for a brief summary of the project, followed by about 20 minutes of questions and answers. About half of the panel had used the ADS, but none had installed the recently released GUI version. The presentation showed the panel examples of the new interface and illustrated three examples of ADS use. A science scenario to extract a sample from the CfA Redshift Survey, a science operations scenario reviewing ROSAT observations, and an example of the Abstract Service. Statistics of ADS use, numbers of registered users and numbers of ADS transactions were presented. The panel was interested in the numbers of people working on the project and the mix of skills. They also asked about progress on providing access to mission data sets and the amounts of effort needed at nodes to support ADS access.

The results of the review were informally communicated to the Project Scientist on Dec. 30. The panel recommended a significantly reduced budget for ADS for FY 1993 and FY 1994 with a freeze on development. This was unexpected and the Project Scientist asked for time to discuss these recommendations with the rest of the Project Team before responding to NASA HQ. Since most of the Team was planning to attend the AAS meeting in Phoenix Jan. 3-7, a meeting as scheduled for that time. A telecon with Dr. Riegler was scheduled for Jan. 15, at which time the ADS Project position regarding the Strategic Review Panel recommendations will be discussed.

In the midst of the above activities, efforts continued by the Project to complete negotiations on the Cooperative Agreement Proposal from SAO to NASA for the Development and Operation of the ADS. Even though the contract amounts were subject to change, it was agreed by SAO and NASA that there needed to be a contractual vehicle in place to continue running the project. Since the project had been running without funds since Oct. 1, 1992 it was urgent to complete the contract and assure the Team that there would be funds to support travel to the AAS meeting and continuing ADS efforts. As of the end of December, most of the issues between the NASA and SAO Contract Offices had been worked out, and final signoff on the contract is expected shortly.

Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 January, 1993

## ADMINISTRATIVE

### LAST MONTHS PROBLEMS/CONCERNS:

#### *HEASARC/GSFC*

The report\_log script for generating monthly node log information seems to have some problems.

A: The script was made available on an as-is basis. Anyone running it needs to understand this and use it with caution. It was sent out more as an example than anything else.

We are aware that the script has some shortcomings (there is no way around this with a shell script if it has to run on many platforms) and our solution is to convert over to the new servers and the LOGserver architecture.

If anybody has problems with the script, the only safe thing to do is to revert to editing the log files manually.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 January, 1993

## SYSTEM ENGINEERING

### TASKS ACCOMPLISHED:

With the release of the X-window version of the system, the Project had the opportunity to focus some of its efforts on design. A future design/development policy was set up, requiring anyone wishing to build components of the system to submit a Design Initiative Proposal (DIP) to the Data System Scientist (J. Good) outlining in brief the work proposed.

A Design Group was set up for this purpose, consisting of all those funded by the Project to do any development work (and a few others). During December, DIPs were generated for the following system components:

#### Infrastructure

- |                   |   |
|-------------------|---|
| Infrastructure    | • outlining minimum infrastructure requirements   |
| Release Structure | • modification to the file structure of the ADS release to facilitate addition of services in the future                    |
| Archive Access    | • general methodology for dealing with data archives  |
| NDADSserver       | • specific interface to the NSSDC archive   |
| KERBEROS          | • general methodology for dealing with security   |
| RPI/KERBEROS      | • modification to the EOS Remote Procedure Invocation module to provide a secure operations environment                     |
| DOCserver         | • general documentation server; to be used for services like the "Message of the day" and distributed catalog documentation |
| LOGserver         | • general methodology for dealing with service logs and statistics generation   |

#### Core Services

- |                 |   |
|-----------------|---|
| Abstract Server | • write-up on the work-in-progress at SAO   |
| NEDserver/EGRET | • write-up on the work-in-progress at IPAC to bring the NASA Extragalactic Database on-line through ADS |
| Plot Tool       | • proposed enhancements to the existing plotting tool (IDL based)                                       |
| AGRAservice     | • write-up on the work-in-progress at IPAC to provide a general map-making tool                         |
| SkyView         | • write-up on the work-in-progress at IPAC to provide a general image display and analysis tool         |

#### Future Services

- |                 |  |
|-----------------|--|
| IDLserver       | • proposal for a general IDL service                     |
| Calculator Tool | • proposed enhancements to the ADS table calculator tool |
| PJOINserver     | • proposal for future "astronomical join" functionality  |
| IRAFserver      | • proposal for a general IRAF service                    |

In addition, a prototype for the NDADS service was written as an example to be sent to NSSDC (unsent, however, since their UNIX workstation was en route to the AAS conference).

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 January, 1993

### USER COMMITTEE

#### PSU:

#### TASKS ACCOMPLISHED:

Andrew Wilcox prepared a demo of the ADS system for the HEASARC user committee meeting at Goddard Space Flight Center on Dec. 4. Wilcox installed and tested the system prior to the meeting and spent the day of Dec. 3 at Goddard. On Dec. 4 Nousek and Wilcox gave a hands-on demo of the new ADS 3.1 software and answered questions about the system. Penn State reproduced 30 copies of the ADS User Guide which were distributed at the meeting, along with user registration forms to all interested parties.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 January, 1993

## USER SUPPORT

### CASA:

#### TASKS ACCOMPLISHED:

- User support statistics for the month:
  - New Users (as of 12/23/92): 24
  - User support inquiries for ADS 2.0: 0
  - ADS general information requests: 17
  - User support inquiries for ADS 3.1: 31
- AAS Demo materials were created. These included sets of laminated demo scenarios and the tri-fold fliers with the ADS registration form included.
- ADS/EOS bug databases were updated and new RCS revisions were created of these databases as part of the maintenance cycle for ADS 3.1.
- xwais was compiled on our DECstation 5000 and index files were created to help search our user inquiries that are maintained in xmh mail folders.
- Updates to the ADS User's Guide were started as part of the next release process.
- ADS demo "open-house" for all CASA members on 12/17/92. The AAS demo scenarios were presented to CASA faculty and graduate students. Approximately 20 people attended.
- Two additional articles were submitted for the coming newsletter. The articles were entitled "ADS Questionnaire" and "ADS Science Scenario".

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (Cont'd):

These are the tasks that are currently being worked on as part of CASA's effort in User Support:

- Maintain and update ADS users database (EOS table).
- Compile kadmin on the DECstation 5000. Expected completion date 1/30/93.
- Continuous updates to the bug/enhancement requests databases including:
  - ADS 3.1 bugs
  - EOS 3.1 bugs
  - ADS 3.1 Enhancement Requests
  - EOS 3.1 Enhancement Requests
  - Unresolved Problems \_ either can't reproduce or a user error
- Automating user registration process through PERL scripts to parse the electronic user registration forms.
- Updates to ADS 3.1 documentation: This includes
  - ADS 3.1 user's guide
  - ADS 3.1 on-line help
  - ADS 3.1 advanced tutorial
- User Support Operations manual - ongoing
- Documentation for the remote function server package - 2/28/93
- Documentation for the trader package - 3/30/93

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 January, 1993

### USER SUPPORT (Cont'd)

#### CASA (Cont'd):

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- The evaluations for using AnswerGarden and/or xwais as part of our inquiry tracking system will be completed.
- A bug tracking system will be in place to handle feedback from the ADS 3.1 release.
- A rough draft of the ADS Developer's Guide will be completed.
- Coordination of efforts for the AAS meeting including:
  - scheduling of manpower for the display booth
  - scientific scenarios and demos
  - tri-fold handout for the AAS meeting
  - packaging of the AAS demos which will include:
    - the ADS base system
    - Abstract service interface
    - S image display interface and set of images
    - EUVE catalog access (if available)
    - GRO catalog access (if available)
  - work with Ellery and SAO on the machine setup

#### PROBLEMS/CONCERNS:

- We are concerned about the shared memory issue and instructing our users on rebuilding their UNIX kernels to include shared memory as part of the ADS 3.1 installation.
- Initial feed back from the release indicate that there may be some problems with the ADS and Openwindows v. 3.0 and the XKeysymDB. Sally Schaller's machine will be set up to run with Openwindows v. 3.0 and the appropriate patches for testing.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 January, 1993

## TEST AND QA

### TASKS ACCOMPLISHED:

Initial tests of the following services were completed in conjunction with the AAS demo setup:

- NASA Extragalactic Database (NED)
- SAO Abstracts Service
- IPAC Skyview Image Display Service

Additional testing and documentation review will be conducted before the beta release to the nodes.

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- A widget for interfacing into the catalog test suite has been completed and is in the process of being tested.
- Delivery of the remote function server package to operations has been postponed until after the final release of the ADS 3.1 is successfully delivered.
- Baseline release of the locator package has been delayed until March 30th in order to allow for further testing and development of a Kerberos interface.
- New catalogs that will be QA'd for the next update release: (In the future, new catalogs will be given a priority ranking according to members of the ADS User's Committee with John Nousek acting as coordinator.)

#### Catalogs from EUVE:

caltargets	Calibration Target List
wfc	Wide field Camera Bright Source List

#### Catalogs from GRO: (list not available)

#### Catalogs from SAO:

rad_br_gals	Compendium of Radio Measurements of Bright Galaxies
rad_miyun_232	Miyun 232 MHz Survey of 2 Fields: 0041+41.2 and 0700+35.0
rad_pks90	The Southern Radio Source Database (Parkes)
rad_radiostars	Optical Positions of 221 Radio Stars (Requieme and Mazurier)
rad_south_ext	Structure of Southern Extended Extragalactic Radio Sources

#### Catalogs from IPAC:

_4c	Fourth Cambridge Radio Survey Catalogue (4C):IPAC
bsc5p	Bright Star Catalog 5th Edition (preliminary):IPAC:Update
cio	Catalog of Infrared Observations, Second Edition:IPAC
cns3p	Preliminary Version of the Third Catalogue of Nearby Stars:IPAC
do	Dearborn Observatory Catalogue of Faint Red Stars:IPAC
gcvs	General Catalogue of Variable Stars:IPAC
irasfsc	Faint Source Survey Catalog Version 2.0:IPAC:Update
irasgal	Cataloged Galaxies and Quasars Observed in the IRAS Survey, Version 2:IPAC

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 January, 1993

### TEST AND QA (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES(Cont'd):

##### Catalogs from the ADC CDROM:

hd.dat	Henry Draper Catalog
gcvs.dat	General Catalog of Variable Stars
nsv.dat	New Catalog of Suspected Variable Stars
agk3.dat	AGK3 Star Catalog
cns3.dat	Catalog of Nearby Stars, 3rd Ed
dmsort.dat	SAO-HD-GC-DM Cross Index, DM Sort
saosort.dat	SAO-HD-GC-DM Cross Index, SAO Sort
rasort.dat	SAO-HD-GC-DM Cross Index, RA/Dec Sort
lineids.dat	Identification List of Lines in Stellar Spectra
selected.dat	Catalog of Selected Clusters
lbn.dat	Lynds' Catalog of Bright Nebulae
ldn.dat	Lynds' Catalog of Dark Nebulae
pln.dat	Strasbourg Galactic Planetary Nebulae
reflect.dat	Catalog of Reflection Nebulae
snr.dat	Catalog of Supernova Remnants
do.dat	Dearborn Observatory's Catalog of Faint Red Stars
bestars.dat	Catalog of Be stars
carbon.dat	General Catalog of Cool Galactic Carbon Stars
emline.dat	Wackerling Catalog of Emission Line Stars
poss.dat	Palomar Observatory Sky Survey
mhd1.dat	Michigan Catalog of 2-D Spectral Types, Vol 1
mhd2.dat	Michigan Catalog of 2-D Spectral Types, Vol 2
mhd3.dat	Michigan Catalog of 2-D Spectral Types, Vol 3
mhd4.dat	Michigan Catalog of 2-D Spectral Types, Vol 4
assoc.dat	Catalogue of Star Clusters and Associations
globular.dat	Globular Cluster Catalog
rc3	3rd Reference Cat of Bright Galaxies
rngc	Rev. Cat of Nonstellar Astron. Objects
a5058_*	CATALOGUE OF METALLICITIES, VELOCITIES AND ORBITAL COMPONENTS FOR F2-K5 DWARFS IN THE VICINITY OF 80 PC FROM THE SUN.
a3161_*	CATALOGUE DE VITESSES RADIALES MOYENNES STELLAIRES
a3118_*	CATALOGUE BIBLIOGRAPHIQUE DE VITESSES RADIALES STELLAIRES
a3021_*	WILSON GENERAL CATALOGUE OF STELLAR RADIAL VELOCITIES
a3144_*	FOUTS AND SANDAGE - NEW SUBDWARFS. RADIAL VELOCITIES FOR 889 HIGH PROPER MOTION STARS
a3047b_*	EVANS CATALOGUE OF STELLAR RADIAL VELOCITIES
a3127_*	ANDERSEN AND NORDSTROEM RADIAL VELOCITIES OF BRIGHT SOUTHERN STARS



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 January, 1993

### TEST AND QA (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES(Cont'd):

- Test plan development for the new server architecture. This will involve the development of test applications and programs. A QA sign-off of the new server architecture will be dependent upon a successful completion of tests associated with the NED and Abstract service applications. Anticipated completion end of January, 1993.

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Continued testing of the ADS 3.1 GUI code and the EOS 3.1 release with some limited testing of the new server architecture.
- Continued testing and QA of new catalogs as they become available for EUVE and GRO.
- QA and testing of the Abstract server as it becomes available.
- QA and testing of Archive servers as they become available.
- QA and testing of the NED service as it becomes available.

#### PROBLEMS/CONCERNS:

- Our experience with the ADS 3.0 beta release has shown that there are not enough adequate testing tools to fully test all of the ADS and the EOS software. The beta test period was very helpful in finding more problems. We will need to continue to work with Ellery to develop these testing tools as schedules and human resources permit.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Stoner (ESI)

status as of: 1 January, 1993

## SYSTEM INTEGRATION

### TASKS ACCOMPLISHED:

Following are the activities of Ellery Systems, the systems integrator for the NASA Astrophysics Data System (ADS) for the month of December 1992.

The primary work at Ellery during December has been to continue work on core ADS software to expand QA of the software and improve performance.

Bug fixes, testing and minor enhancements to the core software used in the ADS continued through the month, including:

- Kernel now sends SIGQUIT instead of SIGKILL to X/Motif user interface (UI) server.
- A bug in the UI server that was causing a core dump in certain situations was fixed.
- Changes were made so that the named pipe files used between the kernel and the UI server can be placed anywhere by environment variables, solving a problem of slowness when these files were on an NFS-mounted filesystem.
- Also, documentation updates were made available in electronic format to the ADS throughout the month on Ellery OS documentation, especially on the Distributed Processing Guide.

Other ADS support activities during the month included:

Work was done at Ellery by Jeff Stoner, Kyle Habermehl and others in preparation for the January AAS meeting in Phoenix, AZ. This included a meeting at ESI with Alice Bertini and Guenther Eichhorn to plan for the AAS. ESI requested loaner systems for the show from Hewlett-Packard and two workstations have been promised for the AAS meeting for use in the ADS booth.

Clark Fishback and Geoff Shaw had meetings with Guenther Eichhorn, Alice Bertini and others at Ellery on 07 and 08 December to strategize marketing efforts for ADS.

Brett Milash and Kyle Habermehl have been providing assistance to Todd Karakashian and Carolyn Grant of SAO as they work on the ADS abstracts service.

Other support was also provided to ADS Operations at IPAC, the user support group at CASA, and to the CASA data node.

The ADS was demonstrated at the NASA Tech 2002 trade show in Baltimore, MD, the week of 01 December as part of distributed processing demonstrations in conjunction with Hewlett-Packard.

Project management, reporting and planning support were also done for the ADS by Geoff Shaw, Lowell Schneider, Jeff Jordan, Nathan Vanderhoofven, and Jeff Stoner.

Several ESI engineers went to HP Labs in Cupertino, CA, the week of 07 December to work with and evaluate the DCE 1.0.1 (NCS 2.0), the DCE version that is scheduled to be released by HP at the end of the first quarter of calendar 1993. This is the beginning of efforts to prepare for DCE use within the ADS as it appears to be the de facto emerging standard.

### ANTICIPATED ACTIVITIES FOR THE NEXT REPORTING PERIOD

- planning and support will be provided for the ADS GUI debut and demonstrations at the January AAS meeting in Phoenix, AZ.
- Bug fix software and documentation updates will be provided as they become available. A bugfix release is planned for 15 January.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 January, 1993

## DEVELOPMENT

### SAO

#### TASKS ACCOMPLISHED:

##### Abstract Service:

- Installed of additional disk space, reconfigured disk space, and reconfigured Ingres DBMS system to better support abstracts software and data.
- Performed a "shakedown test" of abstracts loading software by loading the new tapes from RECON. The software performed well, minor bugs were fixed.
- Reloaded all abstracts data from RECON tapes and rebuilt the entire abstracts database. Rebuilt all the index tables.
- Maintenance of extrinsic EOS routines to support abstracts service.
- Developed specifications for new version of word indexing software.
- Wrote help file for Abstracts Service.
- Gave abstract service to CASA so they could familiarize themselves with it before the AAS meeting.
- Fixed bugs in abstract service and greyed out a number of functions which do not yet exist (synonym replacement and factor space).

##### General Development:

- Sent development suggestions to Ellery in response to a request for what we want to see Ellery working on.
- Developed ADS "guest account" software to support remote users who wish try out the ADS without having to install the software first.
- Worked on integrating HP workstation into HEAD workstation network and system administrative domain.
- Developed prototype script to handle guest user logins.
- Reviewed and commented on IPAC development proposals.

##### Miscellaneous:

- Found and reported bugs with the versions of ceos and xeos released.
- Got 1000 posters made for ADS advertising.
- Gave several ADS tutorials on the Abstracts Service.
- Installed ADS 3.1 and the Abstracts Service on several computer systems around the CfA in order for local users to have access to it.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 January, 1993

## DEVELOPMENT (Cont'd)

### CASA

#### TASKS ACCOMPLISHED:

Reorganization of the CASA ADS directory structure to accomodate anticipated new services and a modular design of these services and the client core system. Associated scripts were updated as well.

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- The Developers Guide to the ADS is in progress and a rough draft should be available for review by the end of January.
- Design Initiative Proposals (DIPs) are in the process for the following topics (expected completion and delivery to Systems Engineering end of January 1993):
  - Local Data Catalog (i.e. Data dictionary). Todd Karakashian and Alice Bertini. The implications of having the LDC setup at each node will affect many other planned applications to the ADS including coordinate handling and positional joins, dynamic documentation services, FITS transport of data, the QBT, and SQLserver functionality.
  - Visual Browsing Tool (ADP grant). Gitta Domik and Alice Bertini - (Done)
  - Bug reporting service. Jacque Anderson and Sally Schaller
  - QA testing tools. Michelle Neves and Brian Drake
  - User training curriculum. Jacque Anderson and Sally Schaller and Alice Bertini
  - Visualization Tools. Gregg Allison and John Good These tools will include IDL plot tool enhancements, enhancements to the IDL server body, a 3-d IDL plot tool, as well as access to other generic plotting packages.
  - A widget for IUE access and some analysis tools using the NDADS archive server (see John Good's DIP). Gregg Allison and Mike Van Steenberg and Randy Thompson.

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Completion of some of the DIP proposals listed above.
- More science scenarios will be compiled, tested, and documented as part of the preparation for the AAS meeting in Phoenix.
- Completion of reintegrating the CASA machines and ADS directories into the CASA system. The common ads directory will be reorganized to reflect more of John Good's proposed structure.

#### PROBLEMS/CONCERNS:

- The ADS Developer's Guide needs to address a lot of development issues that have never been clearly agreed upon by the project. For example, naming conventions for resources and C-lite code. General guidelines can be imposed but project policy on design is yet to be determined.

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 January, 1993

Achievement: \_\_\_\_\_ J. Good (IPAC)

## OPERATIONS

ADS USER/USAGE STATISTICS:

	IPAC2	IUE	PSU	SAO	HEASRC	STSCI	CASA
startup :	9	12	6	23	6	3	10
query :	165	713	29	80	10	35	220
schema :	158	709	28	72	10	35	187
retrieve :	1623	1318	85	128	14	702	1315
abort :	144	605	29	79	10	34	195
report :	2642	1996	1712	1899	1862	1896	2049

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 January, 1993

## SUPPLIERS OF $\Gamma$ A

### CASA

#### TASKS ACCOMPLISHED:

Catalogs from CASA:  
(the lrs catalog documentation sets are currently being reviewed by Dr. Bob Stencel who has a NASA grant to bring these catalogs on-line. Eventually, we would like to offer the Spectra Flux data through an archive service.)

lrs_dutch	The Dutch Low Resolution Spectra Catalog:needs .xmp file
lrs_dutch_asso	The Dutch Low Resolution Spectra Associations Catalog
lrs_dutch_flux	The Dutch Low Resolution Spectra Fluxes Catalog
lrs_volk	The Volk Low Resolution Spectra Catalog
lrs_volk_asso	The Volk Low Resolution Spectra Associations Catalog
lrs_volk_flux	The Volk Low Resolution Spectra Fluxes Catalog
lrs_wavelength	The Low Resolution Spectra Wavelengths Catalog

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 January, 1993

Achievement: \_\_\_\_\_ E. Olson (CEA/Berkeley)

**SUPPLIERS OF DATA (Cont'd)**

**CEA**

**TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 January, 1993

Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

**SUPPLIERS OF DATA (Cont'd)****HEASARC/GSFC****TASKS ACCOMPLISHED:**

A prototype client/server pair was written to access publicly available ROSAT data. A time period for the database search is specified and the results of that search (as returned from the ROSAT VAX/VMS system) are displayed in the client widget. A data set choice can then be made by the user from the list shown in the widget. With that information an e-mail message is constructed and sent to the archive management system on the NDADS VAX/VMS system. When an acknowledgement message is returned from the NDADS machine (indicating a successful staging of the requested data or an unsuccessful staging attempt) that message is displayed in the client widget. The server (written in Perl) handles communication with the VAXes and does some error checking.

**WORK IN PROGRESS:**

The server is to be modified to obtain the ROSAT data directly from the NDADS VAX (via an NDADS server) rather than through an e-mail system. Also, more error checking will be added to the client/server as will the capability to do database searches based on additional constraints.



Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 January, 1993

Achievement: \_\_\_\_\_ J. Mazzeella (IPAC)

**SUPPLIERS OF DATA (Cont'd)****IPAC/CALTECH****TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ P. Lawton (IUE/GSFC)

Status as of: 1 January, 1993

### SUPPLIERS OF DATA (Cont'd)

#### IUE/GSFC

##### TASKS ACCOMPLISHED:

- IUE implemented the new version of IUELOG. Index tables were also created to optimize queries on camera number, image number, coordinates, and object class.
- IUE upgraded IUESN1's INGRES installation to 6.4/02.
- IUE reformatted IUESN1's swap partition after errors in that partition caused INGRES to crash once and hang once. There have been no problems since.
- IUE obtained an updated version of the IUEPROG catalog.

##### WORK IN PROGRESS:

IUE is updating the documentation for the IUEPROG database.

##### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- IUE will submit updated documentation for the IUEPROG database to QA.
- IUE will implement the new version of IUEPROG.
- Ingres 6.4/03 has been announced and will be installed in January.

##### ADS USER/USAGE STATISTICS:

###### December

• query	713
• retrieve	1318
• schema	709
• status	711
• abort	605
• report	1996
• export	24
• export_failure	2
• startup	12
• withdraw	20
• shutdown	10
• query making users	11
• total users	17

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 January, 1993

Achievement: \_\_\_\_\_ J. Nousek (PSU)

**SUPPLIERS OF DATA (Cont'd)**

**PSU**

**TASKS ACCOMPLISHED:**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ M. Garcia(SAO)

Status as of: 1 January, 1993

### SUPPLIERS OF DATA (Cont'd)

#### SAO

#### TASKS ACCOMPLISHED:

Began documentation of radio catalogs to be included with the first update of ADS 3.1. We expect to add the following new catalogs:

rad_miyun_232	Miyun 232 MHz Survey of 2 Fields: 0041+41.2 and 0700+35.0
rad_br_gals	Compendium of Radio Measurements of Bright Galaxies
rad_radiostars	Optical Positions of 221 Radio Stars (Requieme and Mazurier)
rad_south_ext	Structure of Southern Extended Extragalactic Radio Sources
rad_pks90	The Southern Radio Source Database (Parkes)

Found several errors in existing documentation and will send updates for the February update.

#### WORK IN PROGRESS:

We are continuing to add new radio catalogs into our database and also documenting them.

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 January, 1993

Achievement: \_\_\_\_\_ A. Farris (STScI)

**SUPPLIERS OF DATA (Cont'd)****STScI****TASKS ACCOMPLISHED:**

The Archived Exposures Catalogs, HST Long Range Plan, and HST Completed Science Observations were updated. Changes in data formats of Institute files required updates to the database software controlling these databases.

The ADS Version 3.1 was installed on a major scientific server and made available to the user community.



## **ADS Project activities for January and February 1992**

Approved: \_\_\_\_\_ S. Murray  
 Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 March, 1993

### SUMMARY

February was highlighted by the preparation for the upcoming update release and its associated problems. We are still tracking some of the bugs in the new rpi/sms system. The update release has been postponed till the middle of March.

We finally have the okay from the Commerce Department to export ADS. Foreign users can now sign on and receive the software.

The usage of ADS has increased dramatically in the last few months. Following are the usage and user statistics for the last few months.

<u>Time period</u>	<u>distinct users</u>	<u>logins</u>
Aug-92	51	575
Sep-92	36	509
Oct-92	63	1717
Nov-92	83	1757
Dec-92	102	2177
Jan-93	133	2455
Feb-93	189	3607
<u>Time period</u>	<u>new users</u>	<u>Total users</u>
Dec-92	22	311
Jan-93	95	406
Feb-93	119	525
Mar-93		
first week:	105	630



Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 March, 1993

## ADMINISTRATIVE

### TASKS ACCOMPLISHED:

The ADS Project Office has completed work on the revised Cooperative Agreement between SAO and NASA for the continued development and operation of the ADS. Under the terms of this revised agreement, and with the constrained budget that has been negotiated, the Project has deferred all new development work that is not directly related to supporting the short term goal of providing access to data archives and catalogs. These tasks and the current status are listed in the System Engineering report. Serious bugs in the core remote process invocation and session management software were discovered during test and QA and are being addressed. This work has necessarily delayed other core system development needed to support data archive access.

All of the ADS subcontracts from SAO have been initiated, however revisions to budgets are required as a result of the overall budget reduction in the project. Revised Statements of Work with the subcontractors and revised budgets are being worked out and will be finalized in March. This activity is not impacting the work being done, as all of the participants are aware of the pending formal changes and have planned their work and schedules accordingly.

The numbers of ADS users, and the overall system usage is growing at an accelerated rate. The numbers were given in the Summary section of this report, with more detailed information in the User Support section. It is interesting to note that only about 10% of the users who have installed ADS have access to the Abstract Service (as it is still a beta test release). With the next release of ADS (3.2) this service will be included and we expect to see a further rise in use. This month we received permission from the Commerce Department to export ADS. The number of foreign users can be expected to grow, adding to the overall statistics of system use.

The Project is actively pursuing additional sources of data to be made accessible via ADS. Meetings with NASA mission representatives are being scheduled to lay the ground work for ADS participation. The additional effort needed to make data accessible via ADS is greatly reduced with advanced planning that coordinates mission needs with ADS requirements. Similarly the project has been in communication with various ground based astronomy groups who have expressed interest participating as data suppliers. These activities are constrained by the reduced budget for the project. Travel funds are limited, and node support has been reduced in order to concentrate ADS efforts on completion of the data access tasks.

In addition to the concerns the project has regarding the problems found in some core systems modules, we are now faced with evaluating the impact of the next round of operating system releases from the computer workstation vendors. Most significant is the release of SUN's Solaris 2.1 which is required on the newest versions of SUN Workstations. Testing in March will allow us to better estimate this impact, our expectations are that we will need to consider the Solaris version of ADS separately from the SUN OS 4.1.3 version, effectively adding a new "platform" to our list of supported systems and increasing the associated Test and QA burden on the project. Since we are already resource constrained this added effort will need to be compensated by a reduction elsewhere in the project.

Approved: \_\_\_\_\_ S. Murray  
 Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 March, 1993

### ADMINISTRATIVE (Cont'd)

#### LAST MONTHS PROBLEMS/CONCERNS:

##### *CASA/User Support:*

- We are concerned about ADS running on Sun machines that are running Solaris 2.1. The new Sun SPARC Classic and LX machines are being shipped with Solaris 2.1 and cannot be backed down to SunOS 4.1.3 or lower versions. We will be doing some testing on one of these machines through the University of Colorado starting in February.
- A: Testing is in progress.
- We are concerned about the status of the newsletter. If we want to attract new users and keep our current users informed, then a newsletter should go out.
- A: The newsletter will be mailed in the later part of March.

##### *CASA/Development:*

- The ADS Developer's Guide needs to address a lot of development issues that have never been clearly agreed upon by the project. For example, naming conventions for resources and C-lite code. General guidelines can be imposed but project policy on design is yet to be determined.
- A: The Developers Guide is being worked on. These issues will be addressed in the Developers Guide.

##### *HEASARC/Suppliers of Data:*

- We are concerned about the problem where character strings should be quoted according to the SQL standard, but the user or ADS has not explicitly done so.
- A: When the user types in the SQL directly, he is responsible for the syntax (SQL standard -- hopefully -- or otherwise). It is true that with the QBE that the user is still responsible for the quotes and their correct placement. This could be improved, but only if we start including data dictionary (e.g., a "type" for each column) with the QBE templates.

The QBT will improve on this by including the data dictionary information, but the QBT effort is officially on hold because of restrictions placed on us by NASA.

The bottom line is that the user is ultimately responsible for the syntax of the query, though the documentation coming from the node should make it clear what a proper syntax is.

##### *HEASARC/Suppliers of Data:*

- HEASARC is waiting for a file transfer server to be delivered to NDADS. This server will allow access to the ROSAT public archives.
- A: We are waiting for NSSDC to provide the server at NDADS. As soon as this server is in place we can begin testing the file transfer. All other parts are in place, at least as beta test versions.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 March, 1993

## SYSTEM ENGINEERING

### TASKS ACCOMPLISHED:

Over the last couple of weeks we've been severely distracted by the testing and fixing of the new services and underlying infrastructure (RPI/SMS). While that is still ongoing, I thought it would be good to review where we are and where we plan to be by the summer release (with the recent delays I am not going to guarantee June until we have a chance to re-evaluate).

The following is a list of all the activities we currently have underway, the responsible parties, and a rough idea of their current status. The list is in something approaching priority order.

### ADS Development Tasks

Listed below are the development tasks currently being undertaken by the ADS Project. All but the last of these groups are planned for completion this summer (June/July 1993). Assignments (and tentative assignments) are shown by institution in the summary and by responsible party in the status section.

### Infrastructure

Core ADS System	User interface, installation structure	CASA
RPI/SMS	Infrastructure for distributed computing	ESI
Security Services	Authorization checking	IPAC

### Services in Test

Abstract Server	Access to abstract database	SAO
NED Server	Interface to NED database	IPAC

### Archive Access

NDADS Server	Access to all the ADS data at NSSDC	CASA
EOSserver	EOS in server mode (for NDADSserver)	ESI
File Transfer	General mechanism for transferring files	ESI

### Upgrade of Current Functionality

Catalog Access	Access to catalog data	CASA
SQL Server	Updated service to RDBMSs	ESI
Coordinate Handling	Both as service and policy	SAO(?)
Documentation Server	Distributed access to document files	CASA
Plot Tool	XY plotting	CASA

### Operations/Management Tools

Log Handling	Statistics and reporting	IPAC
Monitoring	Service availability, usage	IPAC
Bug Server	Bug report submission	CASA

### Services Nearing Completion

Skyview	Image display	IPAC
AGRA	Sky mapping	IPAC

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 March, 1993

### SYSTEM ENGINEERING (Cont'd)

#### TASKS ACCOMPLISHED (cont'd):

##### Potential Services (no work currently scheduled)

SIMBAD	General interface to SIMBAD	SAO(?)
QBT	Query by Table (simpler catalog query)	SAO
IRAF Server	General interface to IRAF	SAO(?)
IDL Server	General interface to IDL	CASA
Table Calculator	Simplified table manipulation	CASA(?)
Proximity Join	Joining tables on positions	SAO(?)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

##### Core ADS System Michelle Neves (CASA)

This work is crucial to get us into the mode where services can be incrementally added or changed. The initial work on this has gone very well (though it was put on hold for the recent testing/debugging effort). The effort also includes the basic service organization and installation structure. (Four to six weeks to complete).

##### RPI/SMS Andrew Wang (ESI)

This pair of processes is the core of the distributed computing capability used by ADS. Testing over the past couple of weeks has uncovered a few bugs and we are in the process of fixing and testing these. Minor modifications have also been proposed to the logging and control schemes used to facilitate operations and reporting.

The most substantive work envisioned for the RPI/SMS software is the extension of the RPI to provided service registration and location functionality. This is necessitated by the poor operability of the current ANSA Trader code. The basic design and implementation for this upgrade has been complete, and productization is expected well before the summer release.

##### Security Services Steven Lo (IPAC)

The tools necessary for complete security checking are available in KERBEROS and have been caste into a form convenient for ADS use. This functionality needs to be folded into the RPI, the FTserver, and packaged for use as a local service and set of libraries for service builders. This work will resume as soon as the code for these services stabilizes.

##### Abstract Server Guenther Eichhorn (SAO)

The first generation of this service was shown at the AAS meeting and was one of the foci of the testing over the last couple of weeks. A few problems were found in the architecture of the service itself (notably memory management problems) and these are in the process of being fixed. It should be ready (indeed was the main driver) for the update this month.

##### NED Server John Good (IPAC)

This service is currently in test, though with the current problem with the RPI/SMS that testing is on hold. A few minor enhancements have been suggested and will be implemented as resources permit.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 March, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### NDADS Server Gregg Allison (CASA)

A prototype server was build by ADS and delivered to NSSDC for final integration with their database software. Due to staffing problems there, very little work has been done on this integration. since the part to be done by NSSDC involves the basic access to the true data, the work on our end has been confined to basic archive access infrastructure integration (EOSserver / Archive (e.g., NDADS) server / FTserver) and user interface. However, this work is very difficult without feedback of seeing real data and the effort is therefore at a low level.

##### EOSserver Kyle Habermehl (ESI)

In order to control general data access services (e.g., NDADS) which can take hours or even days to retrieve results, we have concluded we need an EOS server. This code is identical to the standard client EOS but runs as a background process and thus can be maintained from session to session.

A prototype EOSserver has been delivered to CASA for initial work on the NDADS server. Requirements on the final EOSserver must await the results of that effort.

##### File Transfer Brett Milash (ESI)

A general file transfer service pair (send/receive) has been built by Ellery and is currently in limited use as part of the IDL plotting tool in the current distribution. Full use of this service (e.g., in the NDADS server) requires an upgrade which will use the security software to check the authenticity and authorization of the requested transfer. This upgrade is not yet scheduled.

##### Catalog Access Alice Bertini (CASA)

We cannot at the current time justify any substantive improvements to the Catalog Access methodology we have built. However, with the new service architecture (and the Coordinate Handling and Documentation services) some changes must be made. With the current emphasis on QA, this effort is on hold.

##### SQL Server Jeff Stoner (ESI)

With the update to the distributed processing architecture that is currently being tested, the old SQL server access to catalog databases needed to be updated as well. The bulk of the work for this has been done (by Brett Milash). Currently, Jeff Stoner is working on the interface issues from the client end. When he completes this, the service will go to QA for testing.

##### Coordinate Handling Steve Murray (? SAO)

In a recent mailing, I expanded on Steve's original approach to coordinate handling, (and related services). No work beyond his original code has been done, though this is central to at least the Catalog Access service.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 March, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### Documentation Server Gregg Allison (CASA)

This functionality is critical to get us out of the mode of distributing documentation on all the catalogs (and therefore requiring massive system release). Other than the original prototype I built as an example service, I do not believe that any substantive work on this has yet been done.

##### Plot Tool Gregg Allison (CASA)

The current plot tool distributed with the system is based on a prototype IDL service developed at CASA and requires IDL (either local or remote) to run. A small amount of fine tuning of this functionality is warranted, but the service is essentially done.

Preliminary work has also been done on integrating in an existing portable graphics package (SM) -- so we can offer software to people that they can run on their own machines -- though any work on this is low priority.

##### Log Handling Jing Li (IPAC)

Currently, our ability to determine system usage as a function of time or user is severely constrained by the format of log files and the data they contain. Log handling software has been designed and a proposal for log formatting and operational handling is in preparation. Development of the log handling tools themselves should begin in the next month.

##### Monitoring Jing Li (IPAC)

Part of the proposed enhancements to the RPI/SMS software are the hooks to allow Operations to reliably monitor and control services. The client tools to do this will be built as soon as this functionality in RPI/SMS is available (about May 1).

##### Bug Server Jacque Anderson, Sally Schaller (CASA)

The proposal was to build a simple local server and widget to help the user construct reports and mail them to CASA. There has not yet been time for any work on this.

##### Skyview John Good (IPAC)

The existing Skyview program at IPAC has been integrated into the ADS as a local service. This work has been done for some time and has been shown to several groups. It has not been incorporated into the ADS release, however, for three reasons. First, IPAC has not gotten final approval to distribute the software themselves (rather than through COSMIC). Second, there has not been time to adequately test the ADS interface. Finally, there is very little call for this service until ADS provides access to image databases.

##### AGRA Jing Li (IPAC)

This local service is self-contained code for turning coordinate tables into sky maps (various projections). Since this is not high on our list, it has had to take a back seat to operational software development. Nevertheless, it is still being finished off in the background and should be ready well in advance of the summer release.

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 March, 1993

**USER COMMITTEE****PSU:****TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 March, 1993

## USER SUPPORT

### CASA:

#### TASKS ACCOMPLISHED:

- User support statistics for the month:
 

- New Users (as of 2/26/93):	119
- User support inquiries for ADS 2.0:	0
- ADS general information requests:	33
- Answered questions (include "answered bin" and phone calls):	96
- Resolved problems (i.e., multiple messages for each of these):	19
- A follow-up e-mail was sent out to anyone who requested ADS info during 11/92, 12/92, and 1/93 and didn't register. A total of 36 messages were sent out.
- The ADS EOS user's table and readreg PERL script that automatically reads electronic registration forms and updates the user's table were updated to include an "a" for "active" or "i" for "inactive". This is in direct response to EOS's inability to handle null fields in EOS tables when performing relational operations (i.e., select, project, join, union, etc.). An enhancement request has been submitted to get around this problem.
- Statistics concerning the number of women using the ADS were reported in response to a request from Geoff Shaw.

#### Documentation:

- Updates and corrections to the ADS User's Guide, On-line help, and related release documents (i.e., README, ReleaseNotes, etc.) were completed as part of the testing and release processes.

#### Miscellaneous:

- An updated CASA Statement-of-work and budget were submitted SAO's and CU's Offices of Contracts and Grants.

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

These are the tasks that are currently being worked on as part of CASA's effort in User Support:

- Maintain and update ADS users database (EOS table).
- Continuous updates to the bug/enhancement requests database including:
 

- ADS 3.1 bugs	- ADS 3.1 Enhancement Requests
- EOS 3.1 bugs	- EOS 3.1 Enhancement Requests
- Unresolved Problems _ either cannot reproduce or a user error	

 Sally Schaller works closely with Ellery to keep these bug databases up-to-date.



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 March, 1993

### USER SUPPORT (Cont'd)

#### CASA:

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### Documentation:

- Updates to ADS 3.1 documentation. This includes:
  - ADS 3.1 User's Guide
  - ADS 3.1 On-line Help
  - ADS 3.1 Advanced Tutorial
  - Release support documents (i.e., README, INSTALL, ReleaseNotes)
- User Support Operations manual -- ongoing
- Documentation for the trader package -- 3/1/93

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- A follow-up e-mailing to the 2,243 users who received the three-fold ADS flier will be sent out encouraging them to become registered users.
- Foreign users will begin to be officially registered.
- The adsguest temporary "try-it-out" accounts will be disabled.

##### Documentation:

- Documentation will be updated as part of the patch release.
- A rough draft of the ADS Developer's Guide will be completed.

#### PROBLEMS/CONCERNS:

We are concerned about ADS running on Sun machines that are running Solaris 2.1. The new Sun SPARC Classic and LX machines are being shipped with Solaris 2.1 and cannot be backed down to SunOS 4.1.3 or lower versions. We will be doing some testing on one of these machines through the University of Colorado starting in March.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 March, 1993

## TEST AND QA

### TASKS ACCOMPLISHED:

Tests in preparation for the scheduled February 15 release were conducted. The goal of these tests were to find any problems with the new services including:

- Abstract Service
- NED Service
- IDL Postscript Plotting Service
- MOTD
- New and updated catalogs from CASA, GRO, SAO, IUE, and IPAC

During these tests a problem was found with the Abstract Service that was reported to Ellery as ESI bug #677. A fix was made at Ellery to the underlying ANSA code library affected the following files:

Client software	eos
Remote server software	rpi_srv
	sms_srv
	usrvadm
	libuserver.a
SQLserver software	sqlserver
	srvadm
Trader software	trader
	trshut
	trsearch

These codes were tested along with the services listed above according to the following testing schedule.

### Table Summary of Testing Dates and Times:

Trader tests run using the new traders at CASA and IPAC, SAO and ESI will continue to run with the old traders since these are currently operational.

KDS curses client tests run at CASA

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 March, 1993

### TEST AND QA (Cont'd)

#### TASKS ACCOMPLISHED (cont'd):

Test Remote Servers					2/18	2/18
	Abstract	2/18 NED	2/22 IDL Plot	MOTD	Old SQLserver	New SQLserver
new EOS	2/18 1:00 - 1:50 p.m. EST	2/19 1:00 - 1:50 p.m. EST	2/22 1:00 - 1:50 p.m. EST	start 2/18	2/18 a.m.	2/19 a.m.
old EOS	2/18 2:00 - 2:50 p.m. EST	2/19 2:00 - 2:50 p.m. EST	2/22 2:00 - 2:50 p.m. EST	start 2/18	2/18 p.m.	2/19 p.m.
old KDS						2/81 CASA testsuites

The results from the coordinated tests revealed a different bug in the remote rpi/sms mechanism. We found during stress testing of the remote services (i.e., multiple clients accessing a single remote rpi service) that the sms\_srv process would be shutdown prematurely resulting in errors reported back to the client and on the console where the rpi was started.

A plan to test just the rpi/sms code using a simple server body was completed and two test procedures were developed. The first test library was originally written by Brett Milash at Ellery and modified by Michelle Neves to allow for unique sms IDs. This test library calls a remote/modal/session bourne shell server body that returns the unix date. The second test library was written by Gregg Allison. This test library included a widget, C-lite code, and a remote/modal/session compiled C server body that echoed back a character string to the client interface. Both test libraries allow for a user designated iteration count and tested all the functions of the sms and rpi.

Coordinated stress tests using these tests libraries were conducted simultaneously by all the ADS staff members at CASA. The test results reliably reproduced the errors that were seen earlier with the new add-on services. In addition, Ellery was able to reproduce the errors as well using the same test libraries on their machines.

A fix is still in progress. CASA and Ellery will continue to run these same tests until we are confident that the problem has been fixed.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 March, 1993

### TEST AND QA (Cont'd)

#### TASKS ACCOMPLISHED (cont'd):

- The ADS catalog test suite widget was completed. This widget allows selection of the different C-lite test libraries including all the catalog access tests.
- New and updated catalogs that have been QA'd and will be included in the next release (total of 48):

caltargets	EUVE Calibration Target List: EUVE
wfc	Wide Field Camera Bright Source List:EUVE
gsc	Guide Star Catalog:Update:Version 1.1 dsc file
batse	Basic information table from the BATSE Burst catalog:GRO
iueprog	IUE Observing Programs:IUE
iuefes	The Fine Error Sensor Catalog:IUE
iuelog	The Revised IUE Merged Observing Log:IUE
emss	Einstein Extended Medium Sensitivity Survey:SAO:Update
qso_burb89	In tpl file the var_fl column should be called var_flag:SAO
rad_11cmallsky	All Sky Catalog of Extragalactic Radio Sources at 2.7 GHz:SAO
rad_6ciii	The 6C III Survey (151 MHz) (5.5h-18.25h; 48deg-68deg) :SAO
rad_6civ	The 6C IV Survey (151 MHz) (Declination: 67deg-82deg) :SAO
rad_b3effl	Distribution of Spectral Indices for B3 Sources:SAO:
rad_br_gals	Compendium of Radio Measurements of Bright Galaxies:SAO
rad_mit_gb3	The MIT-Green Bank 5 GHz Survey III (16.5h-5h; 17deg 39deg):SAO
rad_miyun_232	Miyun 232 MHz Survey of 2 Fields: 0041+41.2 and 0700+35.0:SAO
rad_pks90	The Southern Radio Source Database (Parkes) :SAO
rad_radiostars	Optical Positions of 221 Radio Stars (Requiem and Mazurier):SAO
rad_south_ext	Structure of Southern Extended Extragalactic Radio Sources:SAO
irasfsc	Faint Source Survey Catalog Version 2.0:IPAC:Update
irasgal	Catalogues Galaxies and Quasars Observed in the IRAS Survey,Version 2
iraspac	Point Source Catalog:IPAC:Update
irasssc	IRAS Serendipitous Survey Catalog:IPAC
irasss	IRAS Small Scale Structure Catalog:IPAC
cio	Catalog of Infrared Observations, Second Edition:IPAC
cns3p	Preliminary Version of the Third Catalogue of Nearby Stars:IPAC
john_mean	Photoelectric Photometric Catalogue in the Johnson UBVRI System:IPAC
john_obs	Photoelectric Photometric Catalogue in the Johnson UBVRI System:IPAC
john_ref	Photoelectric Photometric Catalogue in the Johnson UBVRI System:IPAC
rafgl	Revised AFGL Infrared Sky Survey Catalog Description:IPAC:Update
rc2	Second Reference Catalogue of Bright Galaxies:IPAC
tmss	Two Micron Sky Survey Catalogue:IPAC
ugc	Uppsala General Catalogue of Galaxies:IPAC:Update
bsc5p	Bright Star Catalog 5th Edition (preliminary):IPAC:Update
hd	Henry Draper Catalog:CASA
lineids	Identification List of Lines in Stellar Spectra:CASA
lbn	Lynds' Catalog of Bright Nebulae:CASA

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 March, 1993

### TEST AND QA (Cont'd)

#### TASKS ACCOMPLISHED (cont'd):

ldn	Lynds' Catalog of Dark (oooohh) Nebulae:CASA
dbo	Dearborn Observatory's Catalog of Faint Red Stars:CASA
bestars	Catalog of Be Stars; bestars.dsc file complete:CASA
carbon	General Catalog of Cool Galactic Carbon Stars:CASA
emline	Wackerling Catalog of Emission Line Stars:CASA
poss	Palomar Observatory Sky Survey:CASA
mhd1	Michigan Catalog of 2-D Spectral Types, Vol 1:CASA
mhd2	Michigan Catalog of 2-D Spectral Types, Vol 2:CASA
mhd3	Michigan Catalog of 2-D Spectral Types, Vol 3:CASA
mhd4	Michigan Catalog of 2-D Spectral Types, Vol 4:CASA

The total number of catalogs that will be available for this release is 172. The breakdown for catalogs per node is as follows:

CASA	41
EUVE	2
GRO	1
HEASARC	10
HST	5
IPAC	15
IUE	3
NSSDC	1
PSU	6
SAO	88

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

Work will continue with Ellery to find, fix, and test the problems related to multiple client access of remote/modal/session based services. This task is top priority with no current projected completion date.

A widget for interfacing into the catalog test suite has been completed and is in the process of being tested. The widget will interface with a driver widget that will access all test suites included those developed for the rpi tests.

Additional catalogs may be included in the patch release as time permits for QA.



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 March, 1993

### TEST AND QA (Cont'd)

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- The patch release will be tested and packaged to send to IPAC/Operations for distribution to the users.
- Continued testing of the ADS 3.1 GUI code and the new EOS 3.1 release with some testing of the new server architecture by way of new services.
- Continued testing and QA of new catalogs as they become available.
- QA and testing of Archive servers and EOSserver as they become available.

#### PROBLEMS/CONCERNS:

The rpi tests conducted have not clearly defined what and where the problem is. Ellery is able to reproduce the problem but not completely eliminate it. We are concerned that our users will continue to see the problems and will become disgruntled. We are also concerned that the error may still be in the client software (i.e., EOS kernel or ANSA library) which would imply that another patch update would need to be tested and sent out before June.

# SAO      ASTROPHYSICS DATA SYSTEM

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 March, 1993

## SYSTEM INTEGRATION (Cont'd)

### ANTICIPATED ACTIVITIES FOR THE NEXT REPORTING PERIOD

- Continued participation in discussions of new ADS services.
- RPI modifications will be done to eliminate the locator processes used in the current system.
- Assistance to project in upgrading to the new SQLserver.
- Continued bug fixes and support to project as needed.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 March, 1993

## SYSTEM INTEGRATION

### TASKS ACCOMPLISHED:

The primary work at Ellery during February has been to continue work on core ADS software, including:

- A bug was discovered that was causing many "communications failed" messages when packets of certain sizes were passed from servers to the client software. The bug was in the ANSA RPC code which was fixed, with shipment of new executables necessary to CASA, on February 11th.
- Clark Fishback provided ADS core software QA support during the month on the following:
  - design and management of ESI QA testing including test plan design,
  - hands-on testing
  - testing ADS bugs and,
  - discussions with ADS people concerning bugs.
- Don Roberts worked on testing kernel functionality and interface to external services. This included enhancing the xcombo test suite and working with CASA concerning some relational operations questions.
- Kyle Habermehl worked to define and plan the RPI/trader task to be done in March.
- Completed development and internal testing on the alpha/prototype EOSserver and delivered to John Good and to CASA for their initial comments/evaluation. When we receive feedback from them as to additional requirements for this capability, then we will schedule further work on the EOSserver.
- Randall Gaz tested the general server functionality and tested EOS for existing bugs in the 3.1a release to CASA, including:
  - writing clients and server bodies to perform both basic and stress tests, and
  - reviewing ADS reported bugs.

Other ADS support activities during the month included:

- Kyle Habermehl held ADS conference call with John Good and Alice Bertini regarding open bugs and issues, and provided support on various widget questions.
- Clark Fishback worked on documentation updates, including:
  - User's Guide (which will be released to ADS in mid-March),
  - updates to the Function Reference Guide to include new functions including smallio functions, and
  - updates to the Programmer's Reference Guide and Distributed Processing Guide.
- Ron Wright worked with Paul Grant of CfA to enhance systems capabilities so as to conform more closely with the model SAO presents.
- Devin Hooker also worked with Ron Wright and Paul Grant to enhance systems capabilities. Also performed some editing work on Programmer's Reference Guide.
- Brett Milash assisted Carolyn Stern Grant at CfA with abstract server improvements during a visit by her to ESI in early February. Brett also provided assistance to Gregg Allison at CASA with the IDL server and worked on other CASA questions on extrinsics and servers.



# SAO      ASTROPHYSICS DATA SYSTEM

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 March, 1993

## DEVELOPMENT

### SAO

#### TASKS ACCOMPLISHED:

##### Abstract Service:

- Investigation of problems with memory management in abstracts server.
- Re-worked the Abstract User Interface with Brett Milash at Ellery to improve performance, enable more advanced file I/O, allow sorting of abstract lists, and use startup structure from server body.
- Also re-worked all the file I/O widgets in the Abstract Service to allow the user to choose between overwriting or appending to files which already exist, and to do better error checking if the given filename already exists.
- Fixed problems in server body caused by submission from C-Lite of numeric fields when the server body was expecting strings.
- Monitored who was using the abstract service and gathered statistics on abstract service usage.

##### General Development:

- Completed first stage of integration of HP into HEAD workstation environment. The HP is now ready for use by ADS developers.
- Maintained ADS guest account, fixed bugs, evaluated security issues.
- Updated and tested new Ellery software to fix errors which were caused by bugs in the ANSA software.

##### Miscellaneous:

- Helped CASA Q/A catalogs for ADS 3.2 update.
- Helped CASA do coordinated testing of abstracts service, IDL Remote service, and NED.
- Helped uncover problems in xads startup script.
- Added new table with Atomic and Molecular data to assist potential new node in development of proposal and plans to become part of the ADS project.
- Helped users with problems with the Abstract Service.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 March, 1993

### DEVELOPMENT (Cont'd)

#### SAO (Cont'd)

#### TASKS ACCOMPLISHED (cont'd):

##### Beta Abstract Usage Statistics:

**NOTE:** This is prior to distribution of the software by the project. In addition to the installation at project sites, approximately 15 people have requested and installed the beta version of the software.

From January 1, 1993 through February 15, 1993:

##### ADS projects

<u># of</u> <u>users</u>	<u># of</u> <u>logins</u>	<u>#of</u> <u>queries</u>
19	789	13,884

##### Not ADS projects

<u># of</u> <u>users</u>	<u>#of</u> <u>logins</u>	<u>#of</u> <u>queries</u>
33	371	8,868

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 March, 1993

### DEVELOPMENT (Cont'd)

#### CASA

##### TASKS ACCOMPLISHED:

- The Abstract service, NED service, NODIS service, and SIMBAD service were integrated into the ADS 3.2 fix/qa directory.
- A new display\_ip shell script was completed to find the display host's name and IP address for the purpose of allowing remote ADS users access to visualization service tools like the plot widget.
- The load functionality was added to all pulldown menus and popup menus in the ads\_lib C-lite code.
- Redundant and unnecessary echo statements were removed from the ads\_lib C-lite code.
- The ADS login window was updated to accept carriage returns between text entry fields. The OK, Cancel, and Clear buttons were also added by Ellery.
- Bug fixes to the ads\_lib C-lite code as detailed in the ads310.bugs database (EOS table) were completed.

##### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- The Developers Guide to the ADS is in progress but has been put on hold until after the successful release of the ADS 3.2 patch update.
- Development work was started on the core ADS infrastructure modifications to support dynamic loading of services. This work will be completed for a June release. Michelle Neves was officially assigned by John Good the task of coordinating this development work.
- Development work on the NDADS archive interface continues. This work is scheduled to be completed for the June release. Gregg Allison was officially assigned by John Good the task of coordinating this development work.
- Modifications to the on-line help text and help widget were started to support dynamic service loading. This work will be completed as part of the June release. Jacque Anderson and Brian Drake are coordinating these work efforts.

##### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Completion of more DIP proposals.

##### PROBLEMS/CONCERNS:

- The ADS Developer's Guide needs to address a log of development issues that have never been clearly agreed upon by the project. For example, naming conventions for resources and C-lite code. General guidelines can be imposed but project policy on design is yet to be determined.
- There is concern about the NDADS archive service VMS portion being completed in time for the June release.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 March, 1993

## OPERATIONS

### ADS USER/USAGE STATISTICS:

	IPAC2	IUE	PSU	SAO	HEASRC	STSCI	CASA
startup :	13	13	4	24	18	9	11
query :	216	728	36	843	54	65	424
schema :	203	727	36	829	53	63	402
retrieve :	1136	1860	68	2491	433	153	6011
abort :	188	723	31	839	53	63	401
report :	2958	2089	2060	2150	4989	1902	2141

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 March, 1993

Achievement: \_\_\_\_\_ T. Snow (CASA)

**SUPPLIERS OF DATA**

**CASA**

**TASKS ACCOMPLISHED:**

Nothing to report

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 March, 1993

Achievement: \_\_\_\_\_ E. Olson (CEA/Berkeley)

**SUPPLIERS OF DATA (Cont'd)**

**CEA**

**TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

Status as of: 1 March, 1993

### SUPPLIERS OF DATA (Cont'd)

#### HEASARC/GSFC

#### TASKS ACCOMPLISHED:

Problem reports were investigated and resolved.

#### WORK IN PROGRESS

##### Documentation Files:

Continued development of Perl program to automatically generate documentation sets for HEASARC databases (see January 1993 report for details).

##### ROSAT Client/Server:

Continued work on the HEASARC client/server routines which are used to obtain data from the ROSAT public archive. The server software was received, but has yet to be installed at NDADS.

#### ANTICIPATED DELIVERIES FOR NEXT REPORTING PERIOD

20CMNORTH	20cm Radio Catalog, Northern Hemisphere
3ARIEL	3A (Ariel-V) Catalog
4URUHU	4th Uhuru X-ray Catalog
A1	HEAO 1 A1 X-ray Catalog
A2LED	HEAO 1 A2 LED Sky Catalog
A2POINT	HEAO 1 A2 Pointings Catalog
A4	HEAO 1 A4 X-ray Catalog
ABELL	Clusters Catalog
BBXRT	Astro-1 Broad-Band X-ray Telescope
BULLETIN	On-Line Bulletins
COSB	ESA Gamma-ray Telescope
EINLOG	Einstein Observatory Log
EMSS	Einstein EMSS Catalog
GROLOG	CGRO Phase-II Viewing Plan
GSC0-23	HST Guide Star Catalog, (contains 24 subcatalogs)
HIC	Hipparcus Catalog
HRICFA	Einstein High Resolution Imager, CFA Catalog
IPC	Einstein Imaging Proportional Counter, Pointed Data
IPCSLEW	Einstein Imaging Proportional Counter, Slew Data
KONUS	Konus 11 & 12 Gamma-ray Burst Catalog
PVOTRIG	Pioneer-Venus Orbiter Gamma-ray Burst Triggers
RC3	3rd Reference Catalog of Galaxies
RITTER	Ritter CVs & LMXBs Catalog
ROSID	ROSAT Simbad Identification Catalog

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

Status as of: 1 March, 1993

### SUPPLIERS OF DATA (Cont'd)

#### HEASARC/GSFC (Cont'd)

#### ANTICIPATED DELIVERIES FOR NEXT REPORTING PERIOD (Cont'd)

ROSAO	ROSAT Accepted AO Proposals
ROSATLOG	ROSAT Log of Observations
ROSPUBLIC	ROSAT Public Archive Catalog
ROSSTL	ROSAT Short Term Timeline
ROSUSHRI	ROSAT HRI Public Archive, REV0 data
ROSUSPSPC	ROSAT PSPC Public Archive, REV0 data
SMMGRS	SMM Gamma-ray Burst Catalog
SSS	Einstein Solid State Spectrometer
TD1	Stellar UV Fluxes Catalog
WFCBSC	ROSAT Wide Field Camera Bright Source Catalog
WOOLLEY	Stars <25pc from Sun Catalog
ZCAT	HEASARC Catalog of Catalogs

#### REQUESTS FOR SUPPORT/UPGRADES:

HEASARC is waiting for a file transfer server to be installed on the NDADS cluster. When this has been done, we will be able to proceed with testing and implementation.



**SAO**

**ASTROPHYSICS DATA SYSTEM**

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Mazzeella (IPAC)

Status as of: 1 March, 1993

**SUPPLIERS OF DATA (Cont'd)**

**IPAC/CALTECH**

**TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ P. Lawton (IUE/GSFC)

Status as of: 1 March, 1993

### SUPPLIERS OF DATA (Cont'd)

#### IUE/GSFC

#### TASKS ACCOMPLISHED:

- IUESN1's INGRES software was upgraded to 6.4/03.
- T. Meyland is the permanent replacement for N. Oliverson as the IUE Node Technical Supervisor. D. ... was a temporary replacement for Dr. Oliverson who has left the IUE Project to work at NSSDC.
- The latest release of UltraneT was installed. UltraneT is a high speed (1 GB/sec) fiber-optic LAN which is currently being tested at Goddard, and may eventually be accessible by ADS users.
- IUESN1's ADS sqlserver was restarted several times upon receiving requests to do so from ADS Node Support at IPAC.

#### PROBLEMS/CONCERNS:

- The user interface for ADS 3.1 (and 3.0) can not run on our SUN 4/280 workstation without causing numerous errors. As a result, we are forced to continue supporting ADS 2.5. The problem was reported to Quality Control in November. As far as we know, no solution has been determined.

#### ADS USER/USAGE STATISTICS:

- query	728
- retrieve	1860
- schema	727
- status	727
- abort	723
- report	2089
- export	26
- export_failure	0
- startup	13
- withdraw	12
- shutdown	6
- query making users	12
- total users	21

**SAO**

**ASTROPHYSICS DATA SYSTEM**

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 March, 1993

**SUPPLIERS OF DATA (Cont'd)**

**PSU**

**TASKS ACCOMPLISHED:**

Nothing to report.

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ M. Garcia(SAO)

Status as of: 1 March, 1993

**SUPPLIERS OF DATA (Cont'd)**

**SAO**

**TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 March, 1993

Achievement: \_\_\_\_\_ A. Farris (STScI)

**SUPPLIERS OF DATA (Cont'd)****STScI****TASKS ACCOMPLISHED:**

Nothing to report.



## **ADS Project activities for March and April 1992**

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Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 May, 1993

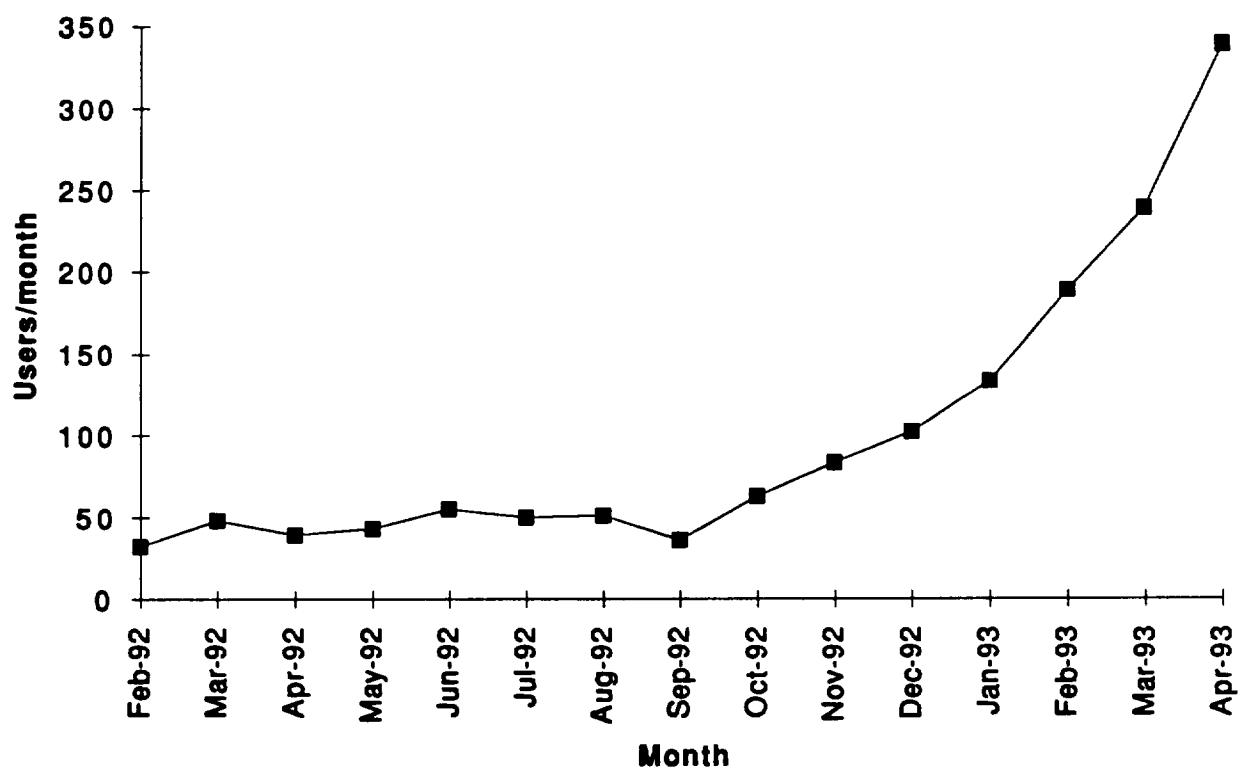
### SUMMARY

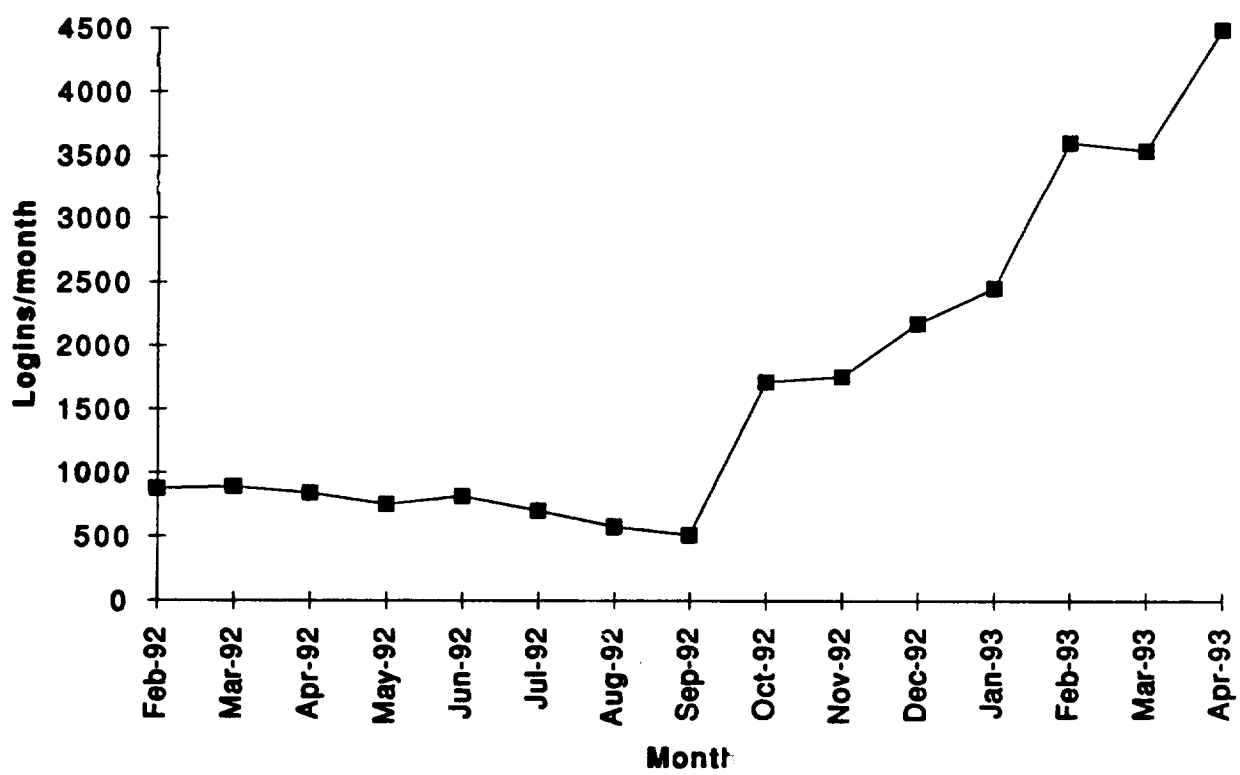
Usage of the ADS continues to increase dramatically (see figures 1 and 2). The abstract service was released and is being used extensively (see numbers on page xxx). The number of queries to the abstract service exceeds the the number of queries to NED or SIMBAD by far and is almost as much as the two combined.

Discussions between ADS and SIMBAD are very fruitfull. We already have a test version of the abstract service that includes an object query option and we should have a test version of a SIMBAD access service in May.

The efforts on improving the infrastructure are continuing. The designs for these improvements are done and the implementation is on its way. This will greatly improve the ease of use from an administrative and operational viewpoint.







Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 May, 1993

### ADMINISTRATIVE (Cont'd)

#### LAST MONTHS PROBLEMS/CONCERNS:

##### *CASA/Node:*

- It is doubtful that CASA has the resources to include all the databases requested above. We would like to split up these requests among the participating ADS nodes. Some of these catalogs may already be on-line. If so, we need to update our status files accordingly and notify the requester. Any assistance with this task would be appreciated.
- A: The ADS project will contact the nodes to see whether anybody has the resources available to assist in bringing up these catalogs. If not, then the inclusion of these catalogs may have to be delayed.

##### *HEASARC.GSFC:*

- We are concerned about the process and shared memory slots that don't die when xads is aborted or the X11 window cannot open on a workstation. For clients installed on basically a single user machine this is not much concern, but for multi-user systems this slot can be used up, not allowing others to use the system.
- A: Ellery is working on a solution to this problem. We may have a version that is less of a problem for the next release later this year.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

## SYSTEM ENGINEERING

### TASKS ACCOMPLISHED:

Listed below are the development tasks currently being undertaken by the ADS Project. Assignments (and tentative assignments) are shown by institution in the summary and by responsible party in the status section. A high-level schedule (the begin dates for the main phases and the final delivery date to ADS QA) for each task is also provided.

#### Infrastructure

Core ADS System	-- User interface, installation structure	(CASA)
RPI/SMS	-- Infrastructure for distributed computing	(ESI)
EOSserver	-- EOS in server mode (for archive access)	(ESI)
Security Services	-- Authorization checking	(IPAC)
Secure File Transfer	-- General mechanism for transferring files	(ESI)

#### Archive Access

Abstract Server	-- Access to abstract database	(SAO)
NED Server	-- Interface to NED database	(IPAC)
NDADS Archive	-- Access to the all ADC data at NSSDC	(CASA)
EINSTEIN Archive	-- Access to Einstein satellite data	(SAO)
IPAC Plate Archive	-- Access to infrared ISSA plates	(IPAC)
SIMBAD	-- General interface to SIMBAD	(SAO)

#### Upgrade of Current Functionality

Catalog Access	-- Access to catalog data	(CASA)
SQL Server	-- Updated service to RDBMSs	(ESI)
Documentation Server	-- Distributed access to document files	(CASA)
Data Dictionary	-- Information on catalog units and formats	(CASA)
Coordinate Handling	-- Both as service and policy	(SAO)
QBT	-- Query by Table (simpler catalog query)	(SAO)
Plot Tool	-- XY plotting	(CASA)

#### Operations / Management Tools

Log Handling	-- Statistics and reporting	(IPAC)
Monitoring	-- Service availability, usage	(IPAC)
Bug Server	-- Bug report submission	(CASA)

#### Services Nearing Completion

Skyview	-- Image display	(IPAC)
AGRA	-- Sky mapping	(IPAC)

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

### SYSTEM ENGINEERING (Cont'd)

#### TASKS ACCOMPLISHED (cont'd):

##### Potential Services (no work currently scheduled)

IUE Archive	-- Access to raw and processed IUE data	(CASA)
Abstract Service	-- Upgrade and possible port to HP	(SAO)
UMinn POSS1 Data	-- Access to the digitized POSS1 plate data	(IPAC?)
IRAF Server	-- General interface to IRAF	(SAO?)
IDL Server	-- General interface to IDL	(CASA)
Table Calculator	-- Simplified table manipulation	(CASA?)
Proximity Join	-- Joining tables on positions	(SAO?)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

##### Core ADS System

Michelle Neves (CASA)

By "Core System" we mean the organization, on the client side, of user services and UI functionality. This is distinct from the maintenance and organization of remote services and their operation. The goal here is to provide an environment where new or updated services can easily be added by a knowledgeable user. This work is crucial to get us into a mode where services can be incrementally added or changed.

<u>Schedule:</u>	Design	12/1/93
	Development	1/15/93
	Delivery to QA	5/24/93

##### RPI/SMS

Andrew Wang (ESI)

The RPI and SMS programs control communications to any ADS services running on a particular machine. This pair of processes is the core of the distributed computing capability used by ADS.

The most substantive work envisioned for the RPI/SMS software is the extension of the RPI to provide aspects of system security, service registration and location functionality. This is necessitated by the poor operability of the current ANSA Trader code. The basic design and implementation for this upgrade has been recently modified to include functionality for the ADS version of the software that has previously only been available in the DCE version. This additional work is extremely important, and justifies the delay of delivery until Sept. 15.

Minor modifications have also been proposed to the logging and control schemes used to facilitate operations and reporting.

<u>Schedule:</u>	Design	2/1/93
	Prototyping	4/1/93
	Development	5/1/93
	Delivery to QA	9/15/93

Author: \_\_\_\_\_ G. Eichhorn  
 Comment: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### EOSserver

Kyle Habermehl (ESI)

In order to control general data access services (e.g. NDADS) which can take hours or even days to retrieve results, we plan to use an EOS\_server. This code is identical to the standard client EOS but runs as a background process and thus can be maintained from session to session.

A prototype EOSserver has been delivered to CASA for initial work on the NDADS server.

<u>Schedule:</u>	Design	2/1/93
	Prototype	3/1/93
	Delivery to QA	5/28/93

##### Security Services

Steven Lo (IPAC)

These tools are necessary for complete security checking using KERBEROS. This functionality needs to be folded into the RPI, the FTserver, and packaged for use as a local service and set of libraries for service builders.

<u>Schedule:</u>	Design	9/1/92
	Development	2/1/93
	Service upgrade	5/15/93
	Delivery to QA	6/7/93

##### Secure File Transfer

Brett Milash (ESI) / Steve Lo (IPAC)

A general file transfer service pair (send/receive) has been built by ESI and is currently in limited use as part of the IDL plotting tool in the current distribution. Full use of this service (e.g., in archive access services) requires an upgrade which will use the security software to check the authenticity and authorization of the requested transfer.

<u>Schedule:</u>	Design	2/1/93
	Development	5/1/93
	Delivery to ADS	5/28/93

##### Abstract Server

Guenther Eichhorn / Carolyn Stern Grant (SAO)

The Abstract Server provided remote access to a database of abstracts culled from the Astrophysics literature by NASA RECON.

After some minor adjustment during the first phase of operation (and additional coding within the core system to meet new security constraints required by NASA), the Abstract Server is now in full operation.

<u>Schedule:</u>	Completed
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Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### NED Server

John Good (IPAC)

The NED database contains a large amount of data about extragalactic sources, including basic data on positions and fluxes, abstracts and references, etc. The initial ADS interface, at the request of the NED project, has been limited to accessing basic name and positional information.

In the longer term, many people have expressed a desire for more of the NED functionality beyond the basic name/position resolution currently offered. It is unclear whether this should be an ADS task or left to the NED project.

Schedule: Completed (additional functionality yet to be negotiated with the NED project).

##### NDADS Archive

Gregg Allison (CASA)

The NDADS server is our main prototype for raw data archive access. It is considered the highest priority item for ADS this fiscal year. A prototype server was built by ADS and delivered to NSSDC for final integration with their database software. NSSDC has been concentrating on the basic access to the data; the work on our end has been infrastructure integration (EOSserver / Archive (e.g. NDADS) server / FTserver) and user interface.

A prototype is currently working and will be shown at the AAS meeting this summer.

Schedule:

Design	12/15/93
Development	2/1/93
Delivery to QA	8/1/93

##### EINSTEIN Archive

Todd Karakashian (SAO)

The EINSTEIN archive server will provide metadata tables as well as real data tables and images of EINSTEIN data. In structure this service is similar to the NDADS server, and some of the same functionality will be reused.

A prototype should be available for demonstration at the AAS meeting this summer.

Schedule:

Design	4/1/93
Development	4/15/93
Delivery to QA	8/1/93

##### IPAC Plate Archive

Todd Karakashian (SAO)

IPAC is putting on-line all of the ISSA infrared sky images which cover the whole sky in a regular pattern. In structure this service is similar to the NDADS server, and some of the same functionality will be reused.

A prototype should be available for demonstration at the AAS meeting this summer.

Schedule:

Design	3/1/93
Development	5/1/93
Delivery to QA	8/1/93

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### SIMBAD Server

Carolyn Stern Grant (CASA)

Where NED provides access to information on extragalactic objects, SIMBAD provides them it for stellar objects. The type of service is similar and we hope to be able to reuse parts of the NED interface code.

<u>Schedule:</u>	Design	3/1/93	
	Development	5/1/93	
	Prototype	5/31/93	(for AAS demonstration)
	Delivery to QA	8/1/93	

##### Catalog Access

Alice Bertini (CASA)

The current catalog access interface distributed with the ADS client was the first service built and makes use of the first generation SQLserver and catalog documents that must be distributed with the system. As is typical of such endeavors, it suffers from learning curve problems.

In migrating to the new SQL Server and Documentation Server, we must also update the integrated Catalog Access environment. We plan to make use of this opportunity to add some functionality to handle casting of coordinate from one catalog representation to another (a "Data Dictionary" mechanism). This additional functionality is considered critical by our user community and should greatly enhance catalog interoperability.

<u>Schedule:</u>	Design	4/1/93	
	Integration	8/1/93	(SQLserver/DOCserver)
	Phase I to QA	9/1/93	(No data dictionary)
	Phase I release	10/1/93	
	Integration	12/1/93	(Data dictionary)
	Phase II to QA	1/1/94	

##### SQL Server

Brett Milash (ESI)

With the update to the distributed processing architecture that is currently being tested, the old SQL server access to catalog databases needed to be updated as well. In particular, support for the new service access architecture and for FITS data transfer.

<u>Schedule:</u>	Design	12/15/92
	Development	1/1/93
	Delivery to QA	5/28/93

##### Documentation Server

Michelle Neves (CASA)

The DOCserver is meant to provide a standard mechanism for users to obtain textual data from any server site. This will include timestamp checking to allow for dynamic updating, so that we can be sure that all users are seeing the same documentation.



Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

This functionality is critical to get us out of the mode of distributing documentation on all the catalogs (and therefore requiring massive system releases).

<u>Schedule:</u>	Design	12/15/93
	Development	5/25/93
	Delivery to QA	7/1/93

#### Data Dictionary Alice Bertini (CASA)

Intercomparing catalogs is usually a matter of checking for positional coincidence. Since existing catalogs currently use a variety of coordinate naming and representation schemes, it is necessary that we have some mechanism for determining this information on a catalog-by-catalog basis. The simplest way to do this is with a standard DBMS "data dictionary" approach. This task is to provide the mechanisms to implement a data dictionary and to provide the hooks for the catalog access system to make use of it.

<u>Schedule:</u>	Design	5/1/93
	Integration	9/1/93
	Delivery	12/1/93

#### Coordinate Handling Carolyn Stern Grant (SAO)

Since coordinates play such a pivotal role in astronomy, we have found it necessary to provide a consistent and uniform set of coordinate handling tools for ADS users and developers. These basic tools will be used extensively, not just by ADS for its internal development but by potential service providers as well.

<u>Schedule:</u>	Design	2/1/93
	Development	5/1/93
	Delivery to QA	8/1/93

#### QBT Todd Karakashian (SAO)

The current Query-By-Example (QBE) functionality in ADS has been found to be cumbersome for most applications and at the request of our users we are planning a more user-friendly interface that uses a more compact, tabular form. This Query-By-Table (QBT) should greatly improve the usability of the current Catalog Access but the effort currently has low priority since it results in no new basic functionality.

Schedule: Not scheduled at this time.

#### Plot Tool Gregg Allison (CASA) / John Good (IPAC)

The current plot tool distributed with the system is based on a prototype IDL service developed at CASA and requires IDL (either local or remote) to run. A small amount of fine tuning of this functionality is warranted, but the service is essentially done.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

Preliminary work has also been done on integrating in an existing portable graphics package (SM) -- so we can offer software to people that they can run on their own machines -- though this work is considered low priority.

<u>Schedule:</u>	Design	2/1/93
	Development	8/1/93
	Delivery to QA	10/7/93

#### Log Handling Jing Li (IPAC)

Currently, our ability to determine system usage as a function of time or user is severely constrained by the format of log files and the data they contain. A generic log handling service (based on the EOSserver) will provide a wide range of statistical measures of system usage.

<u>Schedule:</u>	Design	12/15/93
	Development	4/15/93
	Delivery to QA	7/1/93

#### Monitoring Jing Li (IPAC)

Part of the proposed enhancements to the RPI/SMS software are the hooks to allow Operations to reliably monitor and control services. The client tools to do this will be built as soon as this functionality in RPI/SMS is available and the schedule is primarily constrained by that availability.

<u>Schedule:</u>	Design	4/1/93
	Development	7/1/93
	Delivery to QA	9/15/93

#### Bug Server Jacque Anderson, Sally Schaller (CASA)

The Bug Server would be a simple local server and widget to help the user construct reports and mail them to User Support.

Schedule: Not scheduled at this time

#### Skyview John Good (IPAC)

Skyview is a program developed at IPAC for display and analysis of astronomical images in various formats. This work is funded by IPAC and has no direct relationship to ADS or funding by it.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

The Skyview program has been integrated into the ADS as a local service. This was completed some time ago and has been shown to several groups. It has not been incorporated into the ADS release, however, for three reasons. First, IPAC has not gotten final approval to distribute the software themselves (rather than through COSMIC). Second, there has not been time to adequately test the ADS interface. Finally, there is very little call for this service until ADS provides access to image databases.

Schedule: Development done. Delivery schedule on hold pending distribution authorization.

#### AGRA

Jing Li (IPAC)

This local service is self-contained code for turning coordinate tables into sky maps (various projections). The development has been slow since this is not a high priority item. This service is designed to allow easy use as either an ADS server body or a stand-alone program and is integrated with both ADS services which return positional tables (NED, SIMBAD, Catalog Access) and with image display services (providing coordinate, point source, and area overlays).

Schedule: Design 6/1/92  
 Development 9/1/92  
 Delivery to QA 5/1/93

#### Abstract Service

Todd Karakashian (SAO)

The Abstract Server, while quite successful and capable, was a venture into new territory and will certainly need updating as we gain experience. In addition, it has been proposed to migrate the server to a faster platform for added throughput.

Schedule: Not scheduled at this time.

#### UMinn POSS1 Data

? (IPAC?)

The University of Minnesota has scanned the POSS-1 plates and created a database of sources detected. This data can and will be accessed through a standard SQLserver. The project will, if necessary, lend some assistance to UMinn in setting this up since this is a uniquely valuable resource for the community.

Schedule: Not scheduled at this time.

#### IRAF Server

? (SAO?)

The goal of IRAF was to provide a set of data processing and analysis services. This meshes extremely well with the ADS functionality to provide distributed access to such services. In addition the interfaces of the two systems are constructed in such a way as to allow melding of the systems with minimal impact on either.

Schedule: Not scheduled at this time.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### IDL Server

? (CASA?)

IDL is widely used in the astrophysical community for visualization and analysis of local datasets. Combining this functionality with ADS should produce a general distributed data processing environment of great power.

Schedule: Not scheduled at this time.

##### Table Calculator

Gregg Allison? (CASA)

There are many functions that scientists want to perform on tabular data that are not typically found in commercial DBMS software, nor is the interfaces available in these environments flexible enough for the kind of detailed analysis that scientists need to do. With the functionality already available in ADS, it should be straightforward to provide better tabular analysis tools.

Schedule: Not scheduled at this time.

##### Proximity Join

? (SAO?)

The primary mode that astronomers use in comparing tables of sky objects is to check the proximity on the sky of sources. This function is not currently supplied by commercial DBMSs (in fact, is at odds with the standard relational model which only deals with "equi-joins"). This task would be to provide a mechanism for "joining" two tables on the basis of the proximity of two objects in it.

Schedule: Not scheduled at this time.

SAO

## ASTROPHYSICS DATA SYSTEM

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 May, 1993

### USER COMMITTEE

**PSU:**

**TASKS ACCOMPLISHED:**

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 May, 1993

## USER SUPPORT

### CASA:

The month of April was spent refocusing on development work associated with the NDADS archive service and the ADS core interface. Preparations for the AAS meeting and the ADS User's Meeting in June were started and will be completed for the next reporting period.

Our user base continues to grow. We hope to have 1000 registered users at the start of the AAS meeting and even more by the end of June.

A SPARC LX machine running Solaris 2.1 was installed at CASA. The host name is `perseus.colorado.edu` (128.138.141.66). Accounts for all the CASA ADS team members and an ellery account have been setup. Additional disk space will be available for compiling and testing EOS by the next reporting period.

### TASKS ACCOMPLISHED:

- User support statistics for the month of April:
 

- New users:	155
- Total users:	873
- Total Foreign users:	65
- Information requests:	39
* answered questions (includes "answered bin" and phone calls):	129
* resolved problems:	21
- A NewsNet network announcement was posted to the sci.astro news group. Postings to this news group will continue on a regular basis as scenarios and release announcements become available.
- The Help text files for individual services were separated out to their respective \$SERVICE/docs directory with associated .tli and .toc files. The C-lite help tool callback arguments were updated as well.
- A notice was sent out to all foreign users that the Abstract Service is not available to them. Feedback from all of our users concerning this issue is forwarded to the project office at SAO.
- A follow-up email message to anyone who requested ADS information during March was sent out in early April.

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- A Tri-fold brochure advertising the ADS for the AAS meeting will be completed and mailed to the AAS meeting planning office in Berkeley by 5/20/93 to be included in the AAS attendee packets.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 May, 1993

### USER SUPPORT (Cont'd)

#### CASA (cont'd):

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

- Additional work on the Help text files is in progress to reflect modular status and remove any references in the text to previous or future sections. Projected completion date 9/1/93.
- Additional work on the Help text files is in progress to add examples throughout help text and create short tutorials for each service. Projected completion date 9/1/93.
- DEC user survey to determine the level of support necessary for DECstation 5000 and DECstation 3100 users. Projected completion date 5/31/93.

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Demo scenarios and handout for the AAS meeting in June will be completed.
- Two letter country codes will be added to the EOS users table database.

#### PROBLEMS/CONCERNS:

- There are a number of issues related to the use of the abstract service by foreign users that is cause for some user support concerns. These include:
  - access by US researchers visiting foreign countries
  - access by non-European researchers
  - release and maintenance of a updated xads\_abs C-lite library to specific foreign users to allow access based on their ADS login.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 May, 1993

## TEST AND QA

### TASKS ACCOMPLISHED:

- Trader tests completed and released. This version of the trader includes a patch for a problem encountered in the ADS project. Previous versions of the trader were prepared to read lines up to 2048 bytes from the updatelog file when starting. Some ADS services exported property lists in excess of 7000 bytes, causing the trader to crash when reading the updatelog file. This version of the trader can read updatelog records up to 15360 bytes, twice the current need of the ADS project. Any records that exceed 15360 bytes will be discarded, and a message will be written to the standard output (usually directed into a trader.log file) that a record has been discarded.

This trader has also been modified to place a consistent limit on property list length. The trader will reject service offers from servers with property lists longer than 15360 bytes, and can correctly return property lists up to 15360 bytes during searches.

- SQLserver v1.5 tests completed and released. A fix to the sqlserver process was included to allow for data records up to 4096 bytes. Any records longer than 4096 bytes are truncated to be 4096 bytes. This fix was included in response to problems reported from the HEASARC node.

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Continued QA work on ADC CDrom catalogs. See the CASA Supplier of Data section for more detail.
- Continued QA in conjunction with development work on the core interface, service installation tool, and NDADS archive service.

### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- An updated catalog release is scheduled for early this summer prior to the full release of the core interface and add-on services.

### PROBLEMS/CONCERNS:

- The sms\_srv program was modified to pass the client host's IP address into a local environment variable on the server's host machine. This modification is currently only in place at SAO. We need to get updated copies for all the platforms and official distributions.



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 May, 1993

## SYSTEM INTEGRATION

### TASKS ACCOMPLISHED:

The primary work at Ellery during April has been to continue work on development and enhancement of several ADS services, including the RPI-based SQL server, file transfer server, EOSserver and proposed inclusion of DCE-type abilities in the ANSA RPIs:

- Kyle Habermehl held several technical discussions with John Good regarding various issues (SQL server, File transfer, RPI trader). John Good and Andrew Wang at ESI are re-visiting the issue of the RPI trader since the more ambitious solution may require extensive resources.
- Kyle also did some cleanup work and bug fixes in support of the EOSserver, which John Good and Gregg Allison at CASA are evaluating to provide additional design and functional requirements. Don Roberts tested some areas of EOS server architecture.
- Kyle Habermehl and Brett Milash assisted in working towards a resolution to disallow access to Abstract server from outside of US.
- Kyle Habermehl held several internal design meetings to develop and review the requirements and design of the new SQL server architecture. This included a meeting at Ellery with Alice Bertini to discuss the data dictionary requirements. New requirements for a data dictionary capability were added into the task causing a slight adjustment in schedule.
- The team of Dennis Whalen, Brett Milash and Jeff Stoner continued work on revising the RPI-based SQL service. During April, the design was revised to incorporate some outside input, especially from John Good and Alice Bertini.
- Data dictionary access following the proposed style for ADS was also added to the SQL server, including a data dictionary access server body, ddaccess\_sb, and a set of C-Lite functions that allow access to the remote data dictionary information.
- Brett Milash worked on enhancements to the the file transfer server, including discussions of additional security mechanisms to be built in conjunction with Steve Lo and John Good at IPAC.
- Don Roberts continued working on test plan for new SQL server application, based on latest information from developers.

Other ADS support activities during the month included:

- Brett Milash provided support to off-site developers working with beta versions of the file transfer and EOSserver.
- Brett also delivered new trader and SQLserver executables to ADS.
- Brett provided phone support to CASA, SAO and for Steve Murray while doing a demo in Italy.
- Kyle Habermehl and Brett Milash participated in weekly ADS conference calls.
- Kyle developed a new schedule for delivery of SQLserver, EOSserver, and File Transfer Server modifications.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 May, 1993

### **SYSTEM INTEGRATION (Cont'd)**

#### **TASKS ACCOMPLISHED (cont'd):**

- Dennis Whalen provided some support and assistance for EOSserver development by ADS.
- Jeff Stoner continued coordination with Hewlett-Packard on equipment for the June AAS meeting ADS demo as well as working with Alice Bertini, Todd Karakashian and Carolyn Grant on plans for the demo.
- Don Roberts verified bug fixes to ADS-reported problems in the kernel software.
- Clark Fishback updated documentation for the core ADS software, including: updating Distributed Guide, worked on User Guide, and upgraded the Function Reference Guide.
- Project management, reporting and planning support were also done for the ADS by Geoff Shaw, Lowell Schneider, Jeff Jordan, Nathan Vanderhoofven, Sherry Nauss, and Jeff Stoner.

#### **ANTICIPATED ACTIVITIES FOR THE NEXT REPORTING PERIOD:**

Plans for the next two months of May and June are:

- Completion of modifications to new architecture SQL server along with modifications to ADS C-Lite code to integrate into ADS. Testing will be done and the new SQL service will be delivered to ADS.
- Lowell Schneider will be investigating via a prototype the feasibility of the ANSA/DCE RPI/trader architecture.
- Alpha version of EOSserver will be worked on to clean up currently known problems, additional test libraries will be written and extensive operational testing will be performed.
- Work will continue on the updating the file transfer server.
- Continue to prepare for AAS meeting at Berkeley in early June. Ellery helping setup demo and is coordinating with Hewlett-Packard to provide two workstations to show software on.
- Ongoing bug fixes and support to project as needed.
- Participation in discussions of new ADS services.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 May, 1993

## DEVELOPMENT

### SAO

#### TASKS ACCOMPLISHED:

##### Abstract Service:

- Created new list of titles to include words with both alpha and numeric characters in them. Previously, title words were only included if they were entirely non-numeric. This allowed inclusion of object names like M31 and NGC1275.
- Moved the Abstract Server onto mccoys.
- Limited Abstracts Service usage to US users.
- Experimented with version of Abstract Server which does not poll the sms\_srv for results, but waits to catch signals from the Abstract Server. Found it to run MUCH slower so discontinued conversion of UI code.
- Responded to user questions about Abstract Service capabilities (why some abstracts have no listed journal reference).
- Updated User Interface and Abstract Server to allow queries by object name. Server contacts SIMBAD server in France for info. This will be for the next release of the abstract server.

##### Einstein Archive Service:

- Discussions with ADS and Einstein personnel regarding a proposed service to distribute the Einstein Archives maintained at SAO.
- Designed a prototype of the Einstein Archive Service (EOARC).
- Investigated different search methods for "approximate string matching" to be used in EOARC service.
- Investigated ALLBASE, the HP relational database management system, as a DBMS to support the EOARC service.
- Worked on EOARC User Interface and C-Lite code.

##### SIMBAD Service:

- Worked on SIMBAD user interface and C-Lite code.
- Met with representatives of the SIMBAD service from France regarding setting up an ADS server for SIMBAD queries.

##### General Development:

- Debugging of abstracts service on Sparcserver 690 platform running next release of SunOS.
- Upgraded the HP workstation's operating system so that it would support Elley's testing activities with the Distributed Computing Environment (DCE).
- Presented suggestions for enhancements to EOS and ADS.
- Discussed plans for using command-line driven version of SAOimage to browse through fits images retrieved by the EOARC server.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 May, 1993

**DEVELOPMENT (Cont'd)****SAO (cont'd)****TASKS ACCOMPLISHED (cont'd):****Miscellaneous:**

- Gave talk to CfA community on Catalog access and the Abstracts Service. Generated some new users.
- Helped test new software from Ellery.
- Updated trader, sqlserver, and other software from Ellery to fix various bugs, some of which were producing errors from the Abstract Server.
- Compiled list of ADS docs and sent registration form to people at NIST who want to come on-line as an ADS node.
- Wrote QBE demo scenario and finished up abstracts demo scenario.
- Found C-Lite bug: foo="123 foo"; is treated as numerical input, so C-Lite tries to assign it into foo without the quotes.
- Continued preparing new radio catalogs for inclusion with next release of ADS.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 May, 1993

### **DEVELOPMENT (Cont'd)**

#### **CASA**

#### **TASKS ACCOMPLISHED:**

- Work was completed on the ADS Services Widget phase II.5 including miscellaneous cleanup and reconfiguration, code changes to use path for C-Lite directory and load (), all service files included in that path, modified code so that more than one local server body can be specified, modified some widget specifications, and added a logfile entry to the configuration table.
- Work was completed on the ADS Services Widget phase IV including a split between configuration files using the ADS\_SERVICES environment variable, added code to XADS startup script to determine whether to use user specified environment variable or system defined.
- The Positional Query Options and Catalog List Order menu pulldown options were added to the Catalog Access Tool.
- The SIMBAD Server was included as an ADS add-on service and references to the login on simbad.u-strasbg.fr were deleted.
- The ADS Results Editor Window has been renamed to ADS Table Editor.

#### **WORK IN PROGRESS AND PROJECTED COMPLETION DATES:**

- The NDADS archive service will be completed enough to conduct demos at the AAS meeting. The final version of the NDADS archive service will be available for the next release.
- The catalog access service and associated functionality from the documentation server will be started as part of Phase I of the catalog access service.

#### **ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:**

- A DIP for the INSTALL script and local installation service will be submitted for project review.
- A DIP for the User information service will be submitted for project review.

#### **PROBLEMS/CONCERNS:**

- A problem exists with the ADS core add-on services to allow for dynamic updates to configuration files in different path locations. These locations need to be reflected in the EOSSERVER environment variable. A white paper explaining the the problem in detail was submitted to John Good and Kyle Habermehl by Michelle Neves. It is not clear if this problem has been tasked to Ellery or not.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 May, 1993

## OPERATIONS

### ADS USER/USAGE STATISTICS:

	IPAC2	IUE	PSU	SAO	HEASRC	STSCI	CASA
startup :	5	9	2	12	22	2	4
query :	231	247	56	98	57	76	273
schema :	210	245	55	98	49	74	259
retrieve :	4752	1144	85	235	62	1670	1684
abort :	215	240	56	97	44	69	261
report :	328	2310	2221	2228	2096	2183	1953

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

### Abstracts

user: 193  
 logins: 822  
 queries: 3791  
 short: 18984  
 long: 4202  
 list: 46473

- users* - Number of distinct users using the abstract service
- logins* - Number of logins into the abstract service
- queries* - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).
- short* - Number of lines of short abstract information retrieved (authors and titles).
- long* - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 May, 1993

## SUPPLIERS OF DATA

### CASA

#### TASKS ACCOMPLISHED:

- A new 2.3 Gbyte disk was installed on machine cuads which acts as the database server for the CASA node. This additional disk space will allow us to continue to load new catalogs and datasets.

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Work on the LRS databases continues. The LRS databases contain metadata along with spectra data. The spectra data are being stored in FITS formatted files. Access to the LRS databases at CASA will be offered to users as an optional add-on service.
- The following set of catalogs are in the process of being loaded into Ingres at the CASA node:

<u>task</u>	<u>comment_desc</u>
ppmn	Catalog of Positions and Proper Motions, Northern Hemisphere
ppms	Catalog of Positions and Proper Motions, Southern Hemisphere
spbin	Eighth Catalog of Orbital Data of Spectroscopic Binaries
openclus	The Catalog of HD, HDE, and DM Ids for Open Cluster Stars
interfer	Second Catalog of Interferometric Measurements of Binaries
optqso	The New Optical Catalog of Quasi-Stellar Objects
acrs	The Astrographic Catalog of Reference Stars
fk4	Fourth Fundamental Catalog
fk5	Fifth Fundamental Catalog
irs	The Catalog of International Reference Stars
jplephem	The JPL Ephemerides
nltt	The New Luyten Catalogue
perth70	The Perth 70 Catalog of Positions
perth75	The Perth 75 Catalog of FK Star Positions
pm	The Lowell Proper Motion Survey
binorbit	Fourth Catalog of the Orbits of Visual Binaries
star25pc	Catalog of Stars within 25 Parsecs of the Sun
constell	Catalog of Constellation Boundary Data
findlist	A Finding List for Observers of Interacting Binaries
asteroid	Catalog of Asteroids II
hii	A Catalog of HII Regions
4u	Fourth UHURU X-Ray Catalog
11colo	UBVRIJKLMNH Photoelectric Photometric Catalog

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 May, 1993

### SUPPLIERS OF DATA (Cont'd)

#### CASA (cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>task</u>	<u>comment desc</u>
13colo	13 Color Photometry of Bright Stars
ans	The ANS Ultraviolet Photometry Catalog
geneva	Catalog of Geneva System Stars
lanolt	UBVRI Photometric Standard Equatorial Stars
lanz	Photoelectric Photometric Catalog in the Johnson UBVRI System
s20	The Revised s201 Catalog of Far-Ultraviolet Objects
td1	The Catalog of Stellar Ultraviolet Fluxes
ubv	The UBV Photoelectric Photometry Catalog
feh	A Catalog of [Fe/H] Determinations
lsnorth	Luminous Stars in the Northern Milky Way
mkclass	Catalog of Stellar Spectra in M-K Classification
mkext	M-K Classification Extension
rotvel	Revised Catalog of Stellar Rotational Velocities
spatlas	Stellar Spectrophotometric Atlas
spcat	Catalog of Stellar Spectrophotometry
spstd	Spectrophotometric Standards Catalog
sstars	The General Catalog of S Stars
wdwarf	A Catalog of Spectroscopically Identified White Dwarfs
a3161_*	Catalogue De Vitesses Radiales Moyennes Stellaires
a3118_*	Catalogue Bibliographique De Vitesses Radiales Stellaires
a3144_*	Fouts & Sandage, Radial Velocities of High Proper Motion Stars
a3047b_*	Evans Catalogue of Stellar Radial Velocities
a3127_*	Andersen-Nordstrom Radial Velocities of Bright Southern Stars
globular	Globular Cluster Catalog
rc3	3rd Reference Cat of Bright Galaxies
assoc	Catalogue of Star Clusters and Associations



Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 May, 1993

### SUPPLIERS OF DATA (Cont'd)

#### CASA (Cont'd)

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- The following list of catalogs have been loaded into Ingres and are in the process of having the documentation QA'd and access tested.

<u>task</u>	<u>comp</u>	<u>comment desc</u>
agk3	90	AGK3 Star Catalog
cns3	90	Catalog of Nearby Stars, 3rd Ed
dmsort	90	SAO-HD-GC-DM Cross Index, DM Sort
saosort	90	SAO-HD-GC-DM Cross Index, SAO Sort
rasort	90	SAO-HD-GC-DM Cross Index, RA/Dec Sort
selected	90	Catalog of Selected Clusters
snr	90	Catalog of Supernova Remnants
parallax	90	The General Catalogue of Star Parallaxes
pln	90	Strasbourg Galactic Planetary Nebulae
reflect	90	Catalog of Reflection Nebulae
wds_adssort	90	WDS/DM/HD/ADS Cross Index
wds_dmsort	90	WDS/DM/HD/ADS Cross Index
wds_hdsort	90	WDS/DM/HD/ADS Cross Index
wds_nameidx	90	WDS/DM/HD/ADS Cross Index
wds_namesort	90	WDS/DM/HD/ADS Cross Index
wds_pos	90	WDS/DM/HD/ADS Cross Index
gc	90	The Boss General Catalog
wds	90	Washington Catalog of Visual Doubles

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ E. Olson (CEA/Berkeley)

Status as of: 1 May, 1993

**SUPPLIERS OF DATA (Cont'd)**

**CEA**

**TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

Status as of: 1 May, 1993

### **SUPPLIERS OF DATA (Cont'd)**

#### **HEASARC/GSFC**

#### **TASKS ACCOMPLISHED:**

- Installed latest SQL server and attendant software on new Unix platform in anticipation of switching to new archive server.
- With the cooperation of CASA and ESI, identified bug in SQL server (2k internal buffer has now been increased to 4k).
- Fixed bug in local node software to handle multiple queries.

#### **WORK IN PROGRESS:**

- Continue production of documents for new HEASARC catalogs.

#### **ANTICIPATED DELIVERIES FOR NEXT REPORTING PERIOD:**

- Installation of binary file transfer server.

20CMNORTH	20cm Radio Catalog, Northern Hemisphere
3ARIEL	3A (Ariel-V) Catalog
4URUHU	4th Uhuru X-ray Catalog
A1	HEAO 1 A1 X-ray Catalog
A2LED	HEAO 1 A2 LED Sky Catalog
A2POINT	HEAO 1 A2 Pointings Catalog
A4	HEAO 1 A4 X-ray Catalog
ABELL	Clusters Catalog
BBXRT	Astro-1 Broad-Band X-ray Telescope
BULLETIN	On-Line Bulletins
COSB	ESA Gamma-ray Telescope
EINLOG	Einstein Observatory Log
EMSS	Einstein EMSS Catalog
GROLOG	CGRO Phase-II Viewing Plan
GSC0-23	HST Guide Star Catalog, (contains 24 subcatalogs)
HIC	Hipparcus Catalog
HRICFA	Einstein High Resolution Imager, CFA Catalog
IPC	Einstein Imaging Proportional Counter, Pointed Data
IPCSLEW	Einstein Imaging Proportional Counter, Slew Data
KONUS	Konus 11 & 12 Gamma-ray Burst Catalog
PVOTRIG	Pioneer-Venus Orbiter Gamma-ray Burst Triggers
RC3	3rd Reference Catalog of Galaxies
RITTER	Ritter CVs & LMXBs Catalog
ROSID	ROSAT Simbad Identification Catalog

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 May, 1993

Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

**SUPPLIERS OF DATA (Cont'd)****HEASARC/GSFC (Cont'd)****ANTICIPATED DELIVERIES FOR NEXT REPORTING PERIOD (Cont'd)**

ROSAO	ROSAT Accepted AO Proposals
ROSATLOG	ROSAT Log of Observations
ROSPUBLIC	ROSAT Public Archive Catalog
ROSSTL	ROSAT Short Term Timeline
ROSUSHRI	ROSAT HRI Public Archive, REV0 data
ROSUSPSPC	ROSAT PSPC Public Archive, REV0 data
SMMGRS	SMM Gamma-ray Burst Catalog
SSS	Einstein Solid State Spectrometer
TD1	Stellar UV Fluxes Catalog
WFCBSC	ROSAT Wide Field Camera Bright Source Catalog
WOOLLEY	Stars <25pc from Sun Catalog
ZCAT	HEASARC Catalog of Catalogs

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Mazzarella (IPAC)

Status as of: 1 May, 1993

**SUPPLIERS OF DATA (Cont'd)****IPAC/CALTECH****TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ P. Lawton (IUE/GSFC)

Status as of: 1 May, 1993

### **SUPPLIERS OF DATA (Cont'd)**

#### **IUE/GSFC**

##### **TASKS ACCOMPLISHED:**

- IUE installed ADS 3.2. An improvement over ADS 3.1.
- IUE updated the IUELOG, IUEFES, and IUEPROG tables to those documented in ADS 3.2.
- IUE provided a user account on IUESN1 to a local ADS user who did not have access to a supported system.
- The IDL statistics software was updated to obtain more information from the sqlserver.iue.log file concerning use of the IUE ADS Node.
- Errors in the April 1993 ADS Newsletter were reported.

##### **ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:**

- IUE will install SQLserver 1.5x Ansa Fix.

##### **PROBLEMS/CONCERNS:**

- It was our understanding that ADS nodes would receive new releases at least two weeks before they were distributed to general ADS users. IUE never received advance notice of ADS 3.2.
- The IUE Node was not listed in the April 1993 ADS Newsletter.

##### **REQUESTS FOR SUPPORT/UPGRADES:**

- IUE would like to know as soon as possible the date and location of the next ADS Node meeting.

##### **SUGGESTIONS FOR IMPROVEMENTS:**

- It would be useful if the ADS could support a bulletin board for displaying news from the various ADS nodes. Either one-way or two-way posting would provide a unique capability for astronomers. It would also be useful to include postings from NASA Headquarters.

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 May, 1993

Achievement: \_\_\_\_\_ P. Lawton (TUE/GSFC)

**SUPPLIERS OF DATA (Cont'd)****IUE/GSFC****ADS User/Usage Statistics:**

## April

- query	247
- retrieve	1144
- schema	245
- status	245
- abort	240
- report	2310
- export	18
- export_failure	2
- startup	9
- withdraw	16
- shutdown	8
- query making users	20
- total users	28
- new users	9

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 May, 1993

Achievement: \_\_\_\_\_ J. Nousek (PSU)

**SUPPLIERS OF DATA (Cont'd)**

**PSU**

**TASKS ACCOMPLISHED:**

Nothing to report.



**SAO**

**ASTROPHYSICS DATA SYSTEM**

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ M. Garcia(SAO)

Status as of: 1 May, 1993

**SUPPLIERS OF DATA (Cont'd)**

**SAO**

**TASKS ACCOMPLISHED:**

Nothing to report.

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ A. Farris (STScI)

Status as of: 1 May, 1993

**SUPPLIERS OF DATA (Cont'd)**

**STScI**

**TASKS ACCOMPLISHED:**

Nothing to report.

## **ADS Project activities for May and June 1992**

Approved: \_\_\_\_\_ S. Murray

Status as of: 1 July, 1993

Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

**SUMMARY**

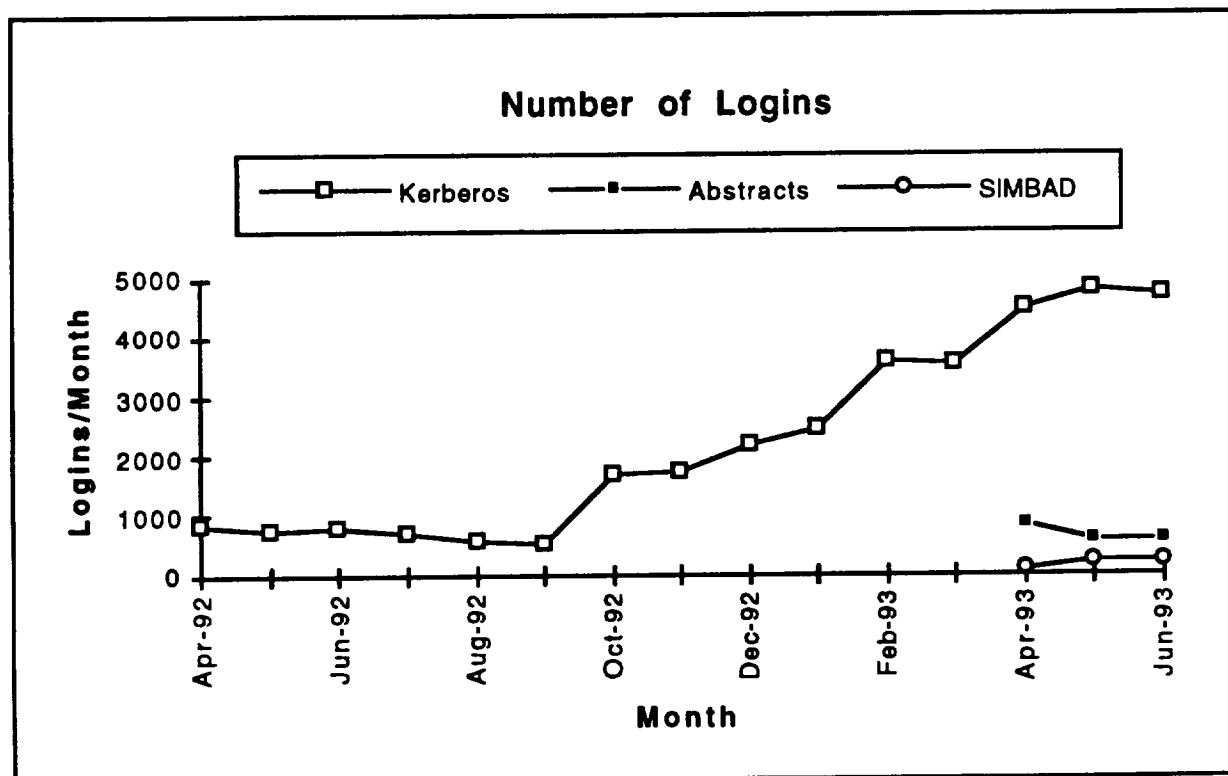
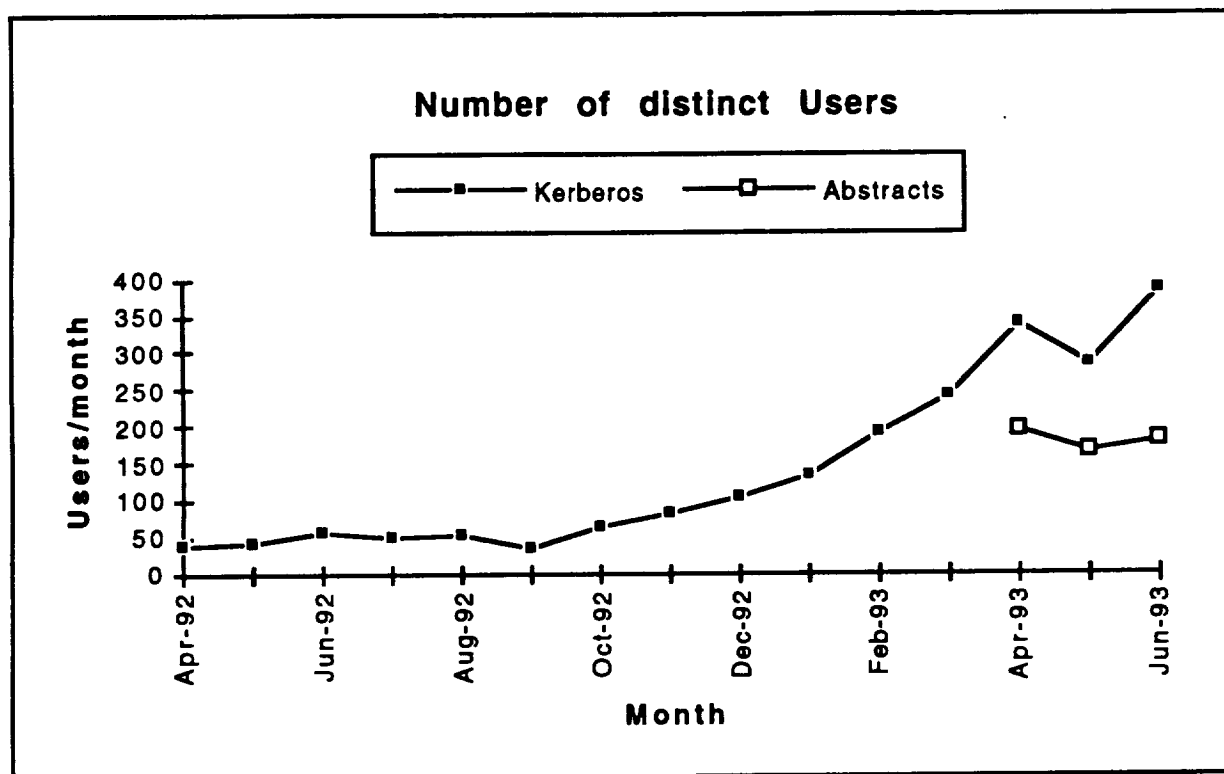
The main event during June was the AAS meeting. We had very successful demonstration setup there. Especially the archive access tools drew considerable interest.

The usage is still increasing. We reached 1000 registered users on 18 June 1993!!  
Following are the graphs including the June numbers.

Approved: \_\_\_\_\_ S. Murray

Status as of: 1 July, 1993

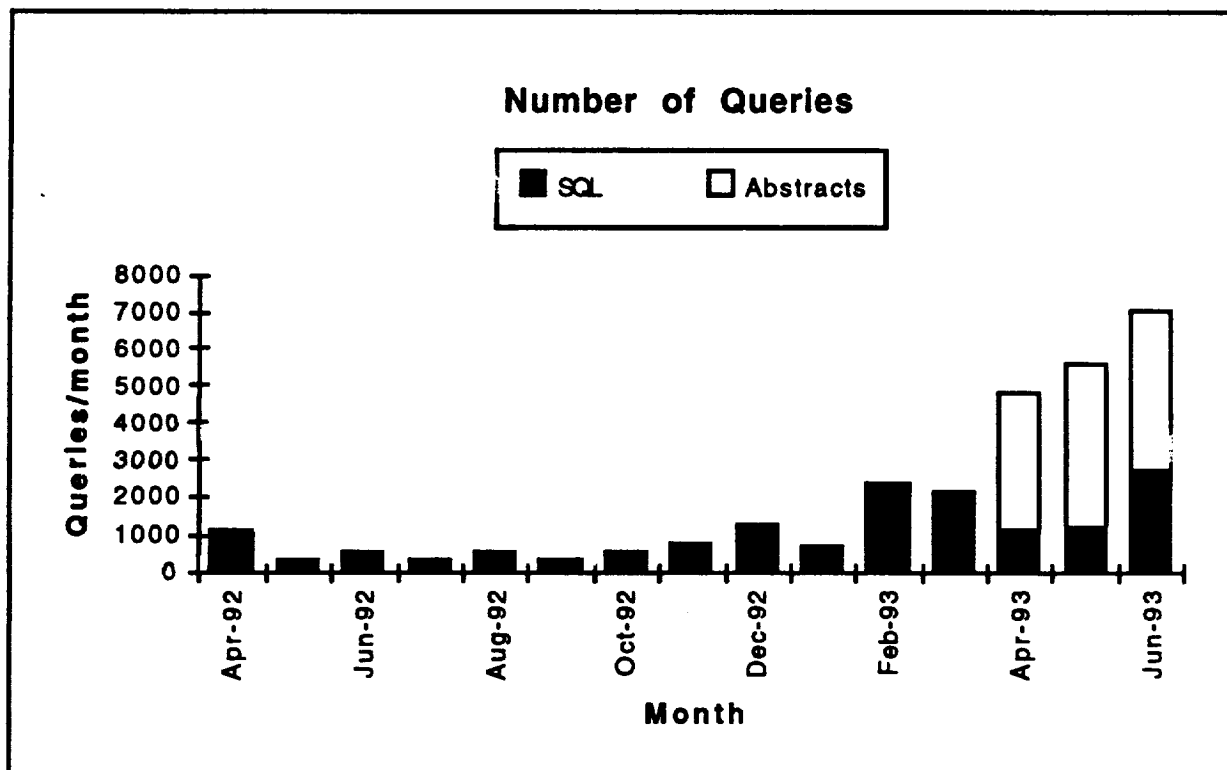
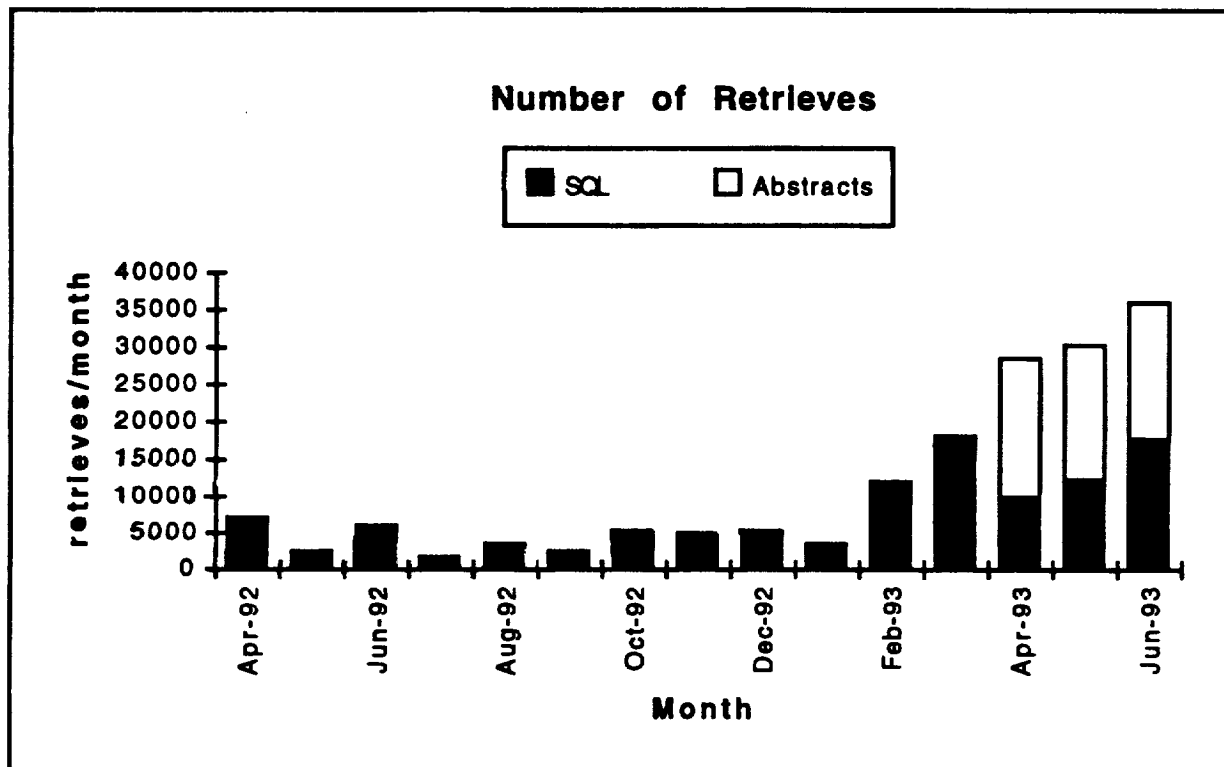
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)



Approved: \_\_\_\_\_ S. Murray

Status as of: 1 July, 1993

Achievement: \_\_\_\_\_ G. Eichhorn (SAO)



Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 July, 1993

### ADMINISTRATIVE

#### TASKS ACCOMPLISHED:

We again had a booth at the AAS meeting, this time in Berkeley. We demonstrated several new features in the ADS. Among these were: Archive access to the NDADS archive at NSSDC, the Einstein archive at SAO and the IRAS all sky survey plates at IPAC, an image display tool and a mapping tool, a graphical user interface to SIMBAD and the new version of the basic system that will allow dynamical service updates. We saw considerable interest in the new features, especially the archive access.

Guenther Eichhorn gave a talk about data and services in the ADS and Mike Kurtz prepared a poster about the abstract service in a poster session.

Discussion with several potential nodes were held during the AAS meeting. We will keep working on establishing new nodes. One data set that we may include in the SAO node are light curves gathered by the AAVSO for about 75 variable stars over a couple of decades. We are in the process of agreeing on a format for these data to make them compatible with our archive servers. Talks are continuing with the group in Lausanne, Switzerland about including their data holdings in the ADS. NIST has not yet received their Sparcstation, so no progress has been made with bringing their data on-line. The group at the University of Minnesota is still working on making a connection to ADS. Talks with Peter Boyce were started about including information from the AAS in ADS. The AAS seems to be interested to make the Job Register and the meeting abstracts available through ADS. We are considering building a WAIS client that works within the ADS system. This should allow us direct access to this information since it is already WAIS indexed and available through WAIS.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

## SYSTEM ENGINEERING

### TASKS ACCOMPLISHED:

Listed below are the development tasks currently being undertaken by the ADS Project. Assignments (and tentative assignments) are shown by institution in the summary and by responsible party in the status section. A high-level schedule (the begin dates for the main phases and the final delivery date to ADS QA) for each task is also provided.

#### Infrastructure

Core ADS System	-- User interface, installation structure	(CASA)
RPI/SMS	-- Infrastructure for distributed computing	(ESI)
EOSserver	-- EOS in server mode (for archive access)	(ESI)
Security Services	-- Authorization checking	(IPAC)
Secure File Transfer	-- General mechanism for transferring files	(ESI)
Transfer Monitor	-- Coordinate file transfers for all srvc	(CASA)
Developer's Guide	-- How to build ADS services	(CASA)

#### Archive Access

Abstract Server	-- Access to abstract database	(SAO)
NED Server	-- Interface to NED database	(IPAC)
NDADS Archive	-- Access to the all ADC data at NSSDC	(CASA)
EINSTEIN Archive	-- Access to Einstein satellite data	(SAO)
IPAC Plate Archive	-- Access to infrared ISSA plates	(IPAC)
SIMBAD	-- General interface to SIMBAD	(SAO)

#### Upgrade of Current Functionality

Catalog Access	-- Access to catalog data	(CASA)
SQL Server	-- Updated service to RDBMSs	(ESI)
Documentation Server	-- Distributed access to document files	(CASA)
Data Dictionary	-- Information on catalog units and formats	(CASA)
Coordinate Handling	-- Both as service and policy	(SAO)
QBT	-- Query by Table (simpler catalog query)	(SAO)
Plot Tool	-- XY plotting	(CASA)

#### Operations / Management Tools

Log Handling	-- Statistics and reporting	(IPAC)
Monitoring	-- Service availability, usage	(IPAC)
Bug Server	-- Bug report submission	(CASA)

#### Services Nearing Completion

Skyview	-- Image display	(IPAC)
AGRA	-- Sky mapping	(IPAC)



Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### TASKS ACCOMPLISHED (cont'd):

##### Potential Services (no work currently scheduled)

IUE Archive	-- Access to raw and processed IUE data	(CASA)
Abstract Service	-- Upgrade and possible port to HP	(SAO)
UMinn POSS1 Data	-- Access to the digitized POSS1 plate data	(IPAC?)
IRAF Server	-- General interface to IRAF	(SAO?)
IDL Server	-- General interface to IDL	(CASA)
WAIS Server	-- WAIS client as ADS service	(SAO?)
Table Calculator	-- Simplified table manipulation	(CASA?)
Proximity Join	-- Joining tables on positions	(SAO?)
SAOimage	-- Image display	(SAO)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

##### Core ADS System

Michelle Neves (CASA)

By "Core System" we mean the organization, on the client side, of user services and UI functionality. This is distinct from the maintenance and organization of remote services and their operation. The goal here is to provide an environment where new or updated services can easily be added by a knowledgeable user. This work is crucial to get us into a mode where services can be incrementally added or changed.

<u>Schedule:</u>	Design	12/ 1/93
	Development	1/15/93
	Delivery to QA	7/15/93

##### RPI/SMS

Andrew Wang (ESI)

The RPI and SMS programs control communications to any ADS services running on a particular machine. This pair of processes is the core of the distributed computing capability used by ADS.

The most substantive work envisioned for the RPI/SMS software is the extension of the RPI to provide aspects of system security, service registration and location functionality. This is necessitated by the poor operability of the current ANSA Trader code. The basic design and implementation for this upgrade has been recently modified to include functionality for the ADS version of the software that has previously only been available in the DCE version. This additional work is extremely important, and justifies the delay of delivery until Sept. 15.

Minor modifications have also been proposed to the logging and control schemes used to facilitate operations and reporting.

<u>Schedule:</u>	Design	2/1/93
	Prototyping	4/1/93
	Development	5/1/93
	Delivery to QA	9/15/93

ed: \_\_\_\_\_ G. Eichhorn  
 ment: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### EOSserver

Kyle Habermehl (ESI)

In order to control general data access services (e.g., NDADS) which can take hours or even days to retrieve results, we plan to use an EOS server. This code is identical to the standard client EOS but runs as a background process and thus can be maintained from session to session.

A prototype EOSserver has been delivered to CASA for initial work on the NDADS server.

<u>Schedule:</u>	Design	2/ 1/93
	Prototype	3/ 1/93
	Delivery to QA	6/28/93

##### Security Services

Steven Lo (IPAC)

These tools are necessary for complete security checking using KERBEROS. This functionality needs to be folded into the RPI, the FTserver, and packaged for use as a local service and set of libraries for service builders.

<u>Schedule:</u>	Design	9/ 1/92
	Development	2/ 1/93
	Service upgrade	5/15/93
	Delivery to QA	6/ 7/93

##### Secure File Transfer

Brett Milash (ESI) / Steve Lo (IPAC)

A general file transfer service pair (send/receive) has been built by ESI and is currently in limited use as part of the IDL plotting tool in the current distribution. Full use of this service (e.g., in archive access services) requires an upgrade which will use the security software to check the authenticity and authorization of the requested transfer.

<u>Schedule:</u>	Design	2/ 1/93
	Development	5/ 1/93
	Delivery to ADS	5/28/93
	Delivery to QA	7/15/93

##### Transfer Monitor

Gregg Allison (CASA)

Since many services will invoke file transfers at one time or another, it makes much more sense to coordinate these requests through one service than to have separate monitor functionality for each service.

<u>Schedule:</u>	Design	6/15/93
	Development	7/ 1/93
	Delivery to QA	8/ 1/93

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### Developer's Guide

Alice Bertini (CASA)

The real power of the ADS is that it allows data/processing service owners to turn their product into ADS services simply and quickly. In order to facilitate this while still maintaining some level of uniformity to interaction look-and-feel, we must establish and publish guidelines and procedures for new developers to follow.

Schedule:      Design                      / /93  
                   Development                / /93  
                   Delivery to QA                / /93

##### Abstract Server

Guenther Eichhorn, Carolyn Stern Grant (SAO)

The Abstract Server provided remote access to a database of abstracts culled from the Astrophysics literature by NASA RECON.

After some minor adjustment during the first phase of operation (and additional coding within the core system to meet new security constraints required by NASA), the Abstract Server is now in full operation.

Schedule:      Completed

##### NED Server

John Good (IPAC)

The NED database contains a large amount of data about extragalactic sources, including basic data on positions and fluxes, abstracts and references, etc. The initial ADS interface, at the request of the NED project, has been limited to accessing basic name and positional information.

In the longer term, many people have expressed a desire for more of the NED functionality beyond the basic name/position resolution currently offered. It is unclear whether this should be an ADS task or left to the NED project.

Schedule:      Completed (additional functionality yet to be negotiated with the NED project).

##### NDADS Archive

Gregg Allison (CASA)

The NDADS server is our main prototype for raw data archive access. It is considered the highest priority item for ADS this fiscal year. A prototype server was built by ADS and delivered to NSSDC for final integration with their database software. NSSDC has been concentrating on the basic access to the data; the work on our end has been infrastructure integration (EOSserver / Archive (e.g., NDADS) server / FTserver) and user interface.

A prototype is currently working and will be shown at the AAS meeting this summer.

Schedule:      Design                      12/15/93  
                   Development                2/ 1/93  
                   Delivery to QA                8/15/93

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### EINSTEIN Archive

Todd Karakashian (SAO)

The EINSTEIN archive server will provide metadata tables as well as real data tables and images of EINSTEIN data. In structure this service is similar to the NDADS server, and some of the same functionality will be reused.

A prototype should be available for demonstration at the AAS meeting this summer.

<u>Schedule:</u>	Design	4/ 1/93
	Development	4/15/93
	Delivery to QA	8/15/93

##### IPAC Plate Archive

John Good (IPAC)

IPAC is putting on-line all of the ISSA infrared sky images which cover the whole sky in a regular pattern. In structure this service is similar to the NDADS server, and some of the same functionality will be reused.

A prototype should be available for demonstration at the AAS meeting this summer.

<u>Schedule:</u>	Design	3/ 1/93
	Development	5/ 1/93
	Delivery to QA	8/ 1/93

##### SIMBAD Server

Carolyn Stern Grant (SAO)

Where NED provides access to information on extragalactic objects, SIMBAD provides them for stellar objects. The type of service is similar and we hope to be able to reuse parts of the NED interface code.

<u>Schedule:</u>	Design	3/ 1/93	
	Development	5/ 1/93	
	Prototype	5/31/93	(for AAS demonstration)
	Delivery to QA	8/ 1/93	

##### Catalog Access

Alice Bertini (CASA)

The current catalog access interface distributed with the ADS client was the first service built and makes use of the first generation SQLserver and catalog documents that must be distributed with the system. As is typical of such endeavors, it suffers from learning curve problems.

In migrating to the new SQL Server and Documentation Server, we must also update the integrated Catalog Access environment. We plan to make use of this opportunity to add some functionality to handle casting of coordinate from one catalog representation to another (a "Data Dictionary" mechanism). This additional functionality is considered critical by our user community and should greatly enhance catalog interoperability.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>Schedule:</u>	Design	4/ 1/93	
	Integration	8/ 1/93	(SQLserver/DOCserver)
	Phase I to QA	9/ 1/93	(No data dictionary)
	Phase I release	10/ 1/93	
	Integration	12/ 1/93	(Data dictionary)
	Phase II to QA	1/ 1/94	

#### SQL Server

Brett Milash (ESI)

With the update to the distributed processing architecture that is currently being tested, the old SQL server access to catalog databases needed to be updated as well. In particular, support for the new service access architecture and for FITS data transfer.

<u>Schedule:</u>	Design	12/15/92
	Development	1/ 1/93
	Delivery to QA	6/28/93

#### Documentation Server

Michelle Neves (CASA)

The DOCserver is meant to provide a standard mechanism for users to obtain textual data from any server site. This will include timestamp checking to allow for dynamic updating, so that we can be sure that all users are seeing the same documentation.

This functionality is critical to get us out of the mode of distributing documentation on all the catalogs (and therefore requiring massive system releases).

<u>Schedule:</u>	Design	12/15/93
	Development	7/15/93
	Delivery to QA	8/15/93

#### Data Dictionary

Alice Bertini (CASA)

Intercomparing catalogs is usually a matter of checking for positional coincidence. Since existing catalogs currently use a variety of coordinate naming and representation schemes, it is necessary that we have some mechanism for determining this information on a catalog-by-catalog basis. The simplest way to do this is with a standard DBMS "data dictionary" approach. This task is to provide the mechanisms to implement a data dictionary and to provide the hooks for the catalog access system to make use of it.

<u>Schedule:</u>	Design	5/ 1/93
	Integration	9/ 1/93
	Delivery	12/ 1/93

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### Coordinate Handling

Carolyn Stern Grant (SAO)

Since coordinates play such a pivotal role in astronomy, we have found it necessary to provide a consistent and uniform set of coordinate handling tools for ADS users and developers. These basic tools will be used extensively, not just by ADS for its internal development but by potential service providers as well.

<u>Schedule:</u>	Design	2/ 1/93
	Development	5/ 1/93
	Delivery to QA	8/ 1/93

##### QBT

Todd Karakashian (SAO)

The current Query-By-Example (QBE) functionality in ADS has been found to be cumbersome for most applications and at the request of our users we are planning a more user-friendly interface that uses a more compact, tabular form. This Query-By-Table (QBT) should greatly improve the usability of the current Catalog Access but the effort currently has low priority since it results in no new basic functionality.

Schedule: Not scheduled at this time.

##### Plot Tool

Gregg Allison (CASA) / John Good (IPAC)

The current plot tool distributed with the system is based on a prototype IDL service developed at CASA and requires IDL (either local or remote) to run. A small amount of fine tuning of this functionality is warranted, but the service is essentially done.

Preliminary work has also been done on integrating in an existing portable graphics package (SM) -- so we can offer software to people that they can run on their own machines -- though this work is considered low priority.

<u>Schedule:</u>	Design	2/ 1/93
	Development	8/ 1/93
	Delivery to QA	3/ 1/93

##### Log Handling

Jing Li (IPAC)

Currently, our ability to determine system usage as a function of time or user is severely constrained by the format of log files and the data they contain. A generic log handling service (based on the EOSserver) will provide a wide range of statistical measures of system usage.

<u>Schedule:</u>	Design	12/15/93
	Development	4/15/93
	Delivery to QA	7/ 1/93

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### Monitoring

Jing Li (IPAC)

Part of the proposed enhancements to the RPI/SMS software are the hooks to allow Operations to reliably monitor and control services. The client tools to do this will be built as soon as this functionality in RPI/SMS is available and the schedule is primarily constrained by that availability.

<u>Schedule:</u>	Design	4/ 1/93
	Development	7/ 1/93
	Delivery to QA	9/15/93

##### Bug Server

Jacque Anderson, Sally Schaller (CASA)

The Bug Server would be a simple local server and widget to help the user construct reports and mail them to User Support.

Schedule: Not scheduled at this time

##### Skyview

John Good (IPAC)

Skyview is a program developed at IPAC for display and analysis of astronomical images in various formats. This work is funded by IPAC and has no direct relationship to ADS or funding by it.

The Skyview program has been integrated into the ADS as a local service. This was completed some time ago and has been shown to several groups. It has not been incorporated into the ADS release, however, for three reasons. First, IPAC has not gotten final approval to distribute the software themselves (rather than through COSMIC). Second, there has not been time to adequately test the ADS interface. Finally, there is very little call for this service until ADS provides access to image databases.

Schedule: Development done.  
 Delivery schedule on hold pending distribution authorization.

##### AGRA

Jing Li (IPAC)

This local service is self-contained code for turning coordinate tables into sky maps (various projections). The development has been slow since this is not a high priority item. This service is designed to allow easy use as either an ADS server body or a stand-alone program and is integrated with both ADS services which return positional tables (NED, SIMBAD, Catalog Access) and with image display services (providing coordinate, point source, and area overlays).

<u>Schedule:</u>	Design	6/ 1/92
	Development	9/ 1/92
	Delivery to QA	5/ 1/93

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### Abstract Service

Todd Karakashian (SAO)

The Abstract Server, while quite successful and capable, was a venture into new territory and will certainly need updating as we gain experience. In addition, it has been proposed to migrate the server to a faster platform for added throughput.

Schedule: Not scheduled at this time.

##### UMinn POSS1 Data

? (IPAC?)

The University of Minnesota has scanned the POSS-1 plates and created a database of sources detected. This data can and will be accessed through a standard SQLserver. The project will, if necessary, lend some assistance to UMinn in setting this up since this is a uniquely valuable resource for the community.

Schedule: Not scheduled at this time.

##### IRAF Server

? (SAO?)

The goal of IRAF was to provide a set of data processing and analysis services. This meshes extremely well with the ADS functionality to provide distributed access to such services. In addition the interfaces of the two systems are constructed in such a way as to allow melding of the systems with minimal impact on either.

Schedule: Not scheduled at this time.

##### IDL Server

? (CASA?)

IDL is widely used in the astrophysical community for visualization and analysis of local datasets. Combining this functionality with ADS should produce a general distributed data processing environment of great power.

Schedule: Not scheduled at this time.

##### WAIS Server

Todd Karakashian? (SAO?)

WAIS provides distributed access to a number of textual databases around the country. Rather than replicating this functionality, it makes sense for the ADS to tap into the existing services. The simplest way to do this is to create a custom WAIS client that would run as a local ADS service. Not only do we then have access to all WAIS functionality, but we add the value of the ADS GUI interface and additional data processing tools to WAIS.

Schedule: Not scheduled at this time.



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### Table Calculator

Gregg Allison? (CASA)

There are many functions that scientists want to perform on tabular data that are not typically found in commercial DBMS software, nor is the interfaces available in these environments flexible enough for the kind of detailed analysis that scientists need to do. With the functionality already available in ADS, it should be straightforward to provide better tabular analysis tools.

Schedule: Not scheduled at this time.

##### Proximity Join

? (SAO?)

The primary mode that astronomers use in comparing tables of sky objects is to check the proximity on the sky of sources. This function is no currently supplied by commercial DBMSs (in fact, is at odds with the standard relational model which only deals with "equi-joins"). This task would be to provide a mechanism for "joining" two tables on the basis of the proximity of two objects in it.

Schedule: Not scheduled at this time.

##### SAOimage

Carolyn Stern Grant (SAO)

SAOimage is an image display program widely used in the astronomical community, partly due to its links to the IRAF package. SAO has undertaken to build an ADS interface themselves, so the only Project task is to QA it.

Schedule: Delivery to QA 8/ 1/93

Approved \_\_\_\_\_ G. Eichhorn  
Achievement \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 July, 1993

## USER COMMITTEE

### PSU:

### TASKS ACCOMPLISHED:

- John Nousek chaired a meeting of the ADS User Committee held in conjunction with the AAS meeting in Berkeley, CA on June 9, 1993. Nousek prepared the agenda for the meeting, accepting comments from Guenther Eichhorn, Alice Bertini, Jacques Andersen, and Mary Wittman. The meeting was attended by about 20 people. (A copy of the amended minutes are attached to this report.) In addition to preparing the minutes he also revised them after comments from G. Eichhorn, A. Bertini and Mike Kurtz.
- Nousek also presented a one hour introduction to the ADS for the Penn State Research Experiences for Undergrads on July 1. All of the REU students participated in a demo on July 6, and have been enrolled as ADS users.
- Andrew Wilcox completed his ADS duties on June 15. Due to funding cuts no replacement can be hired.

### Fourth ADS User Committee Meeting - EXECUTIVE SUMMARY

The fourth ADS User Committee meeting was held on June 9, in Berkeley, and attended by about 20 people (names at end).

### Agenda as worked:

9:30	Welcome, Summary of Events since last meeting	Nousek
9:45	ADS 3.2 - New features	Bertini
	Preview of features of next ADS release	
10:00	System Usage and User Support Statistics	Anderson
10:15	Change in NASA funding support in 1993	Eichhorn
	Future developments which may have to be postponed	
11:00	Open discussion, input from user community	Nousek

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 July, 1993

### USER COMMITTEE (Cont'd)

#### PSU (cont'd):

#### TASKS ACCOMPLISHED (cont'd):

##### Summary of Responses from last Meeting

- John Nousek reviewed the three major funding reductions to MO&DA at NASA Astrophysics, leading up to a Senior Review finding that the ADS should be cut in funding by 67%. Guenther Eichhorn explained that this meant that most of the funding would be needed to maintain and operate the system. Development will only be possible to support inclusion of new data in the system. Note, however, that the ADS fully intends to support users or additional data centers who wish to bring new services on-line.
- Alice Bertini presented slides of the new tools being developed and currently being demonstrated at the ADS booth. These included a SIMBAD Graphical User Interface built into ADS, the IPAC S image display tool, the ISSA Infrared Sky Survey image database, the SkyView sky projection software and the NDADS and Einstein GUI database interfaces. All of these new services will be included in the September 1993, release of ADS.
- Jacque Anderson presented the recent ADS usage statistics. There are currently nearly 1000 ADS users, of whom 1/3 log on monthly, and send 5000 queries for data which the ADS services. (For comparison the NASA RECON system processes roughly 10,000 queries per year!)

Note: Although not mentioned at the User Meeting, the former program manager for ADS at NASA HQ, Dr. Frank Giovane, has left ADS. The new program manager will be Dr. Erwin Schmerling. We all wish the best to Frank in his new job.

##### Summary of Conclusions of User Group

- The users present made the following comments:
  - Joyce Watson:* Multi-catalog queries should be implemented soon. [ADS comment: Multi-catalog queries is available now in both ADS v3.1 and ADS v3.2. The full-blown query "fanout" capability and "fuzzy" join have not been implemented yet.]
  - Daniel Egret:* A capability to plot and display IUE spectra would be popular.
  - Alan Meyer:* SkyView should display a symbol proportional to brightness.
  - Daniel Egret:* ADS must now face a more skeptical professional community after the long interval of promises which are perceived to be unfulfilled.
  - Alisha Polomski:* Error messages can not be captured, but should be.
  - Don Wells:* ADS's future must include both international cooperation and outreach to NOAO and NRAO.
  - All:* More users should attend the user meeting. Two suggestions were made: more publicity, and scheduling near but not coincident with the AAS.
  - John Nousek:* Funding cuts are making it impossible for the ADS to pay users to travel to the user meeting on ADS funds.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 July, 1993

### USER COMMITTEE (Cont'd)

PSU (cont'd):

TASKS ACCOMPLISHED (cont'd):

### ATTENDANCE LIST USER'S MEETING, 9 June 1993

#### NAME

Jacque Anderson  
Paul Barrett  
Alice Bertini  
J.-P. Caillault  
Geoff Clayton  
Guenther Eichhorn  
Mike Kurtz  
John Nousek  
Elisha Polomski  
Joyce Watson  
Mary Wittman  
Alan Meyer  
Geoff Nash  
Daniel Egret  
Guenter Riegler  
Don Wells  
Janet Mattei  
(~ 4 others who did not speak)

#### E-MAIL

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mew@ipac.caltech.edu

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 July, 1993

## USER SUPPORT

### CASA:

The first part of June was spent finalizing preparations for the Berkeley AAS meeting and attending the meeting. The demos for the AAS included the new core interface and new services including: NDADS archive access, ISSA plate archive access, Einstein archive access, AGRA plotting tool, IPAC S image display, and the SIMBAD GUI. Alice Bertini, Jacque Anderson, and Gregg Allison attended the meeting from CASA.

Other hi-lights this month included submission of proposals to the AISRP NRA (one from Michelle Neves as P.I. entitled "Visual Interface to SQL" and one from Alice Bertini as Co-I entitled "GRASP - Generic Archiving Tools and Services"); registration of our 1000th ADS user; and a mass emailing to over 5600 astronomers from the RGO list with information about the ADS and a registration form.

Copies of the CASA ADS group gant charts and monthly schedules were given to Guenther Eichhorn and John Good at the AAS meeting. These schedules are used by the CASA ADS group to help manage our time and prioritize work loads. The charts are generated from EOS status tables and Microsoft Project software. In addition, these tables are used to generate our monthly status reports to SAO and NASA. These tables include status information related to the following subjects:

- User support
- Test and QA
- Development
- CASA node supplier of data
- Miscellaneous status

Each status file contains the following fields:

task	Short task description (full description should be given in the comment_desc field if needed).
status	Status code for the given task; IP=In progress, OH=On hold, D=Done, NS=Not started, NR=Not yet received R=Requested, C=Canceled. OH can indicate that no further work can be accomplished on the given task due to a question concerning the task (e.g., a question to a node concerning catalog documentation). In the comment_desc field information should be given on why the status is OH. R indicates that a task has been requested (requestor name given in the comment_desc field), but not yet given priority or assigned (these items will be at the end of the status file).

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 July, 1993

### USER SUPPORT (Cont'd)

#### CASA (cont'd):

With regard to the catalogs QA/Test status file, ON indicates that the catalog is currently on-line and available. UD indicates that the catalog has been taken off-line for updating purposes.

section Refers to the section of the status report in which this task should be reported.

The available options are:

TA - Tasks Accomplished

IP - In Progress

AD - Anticipated Deliveries

PC - Problems/Concerns

comp The percentage of completion for the given task.

name Code for the name of person(s) assigned to the task (multiple entries should be separated by colons); AB=Alice Bertini, MN=Michelle Neves, JA=Jacque Anderson, BD=Brian Drake, GA=Gregg Allison, SS=Sally Schaller, ES= Ellery Systems, RD=Rebecca Davis, DL=Doug Lindholm, GC=Geoff Clayton, TS=Ted Snow

If the status field is equal to NR (not yet received), then the name field indicates who will provide the task (i.e., for test/qa).

start\_date The date the task was started (if any).

end\_date The date the task is expected to be complete or was completed.

comment\_desc Additional comments or descriptions concerning the task. Multiple items should be colon (:) separated.

#### TASKS ACCOMPLISHED:

- User Support statistics for the month of June:
  - New users: 250
  - Total users: 1176
  - New foreign users: 106
  - Total foreign users: 178
  - Information requests: 27
    - \* answered questions: (includes "answered bin" and phone calls) 99
    - \* resolved problems: (multiple messages for each of these) 11

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 July, 1993

### USER SUPPORT (Cont'd)

#### CASA (cont'd):

#### TASKS ACCOMPLISHED (cont'd):

- An Article for the next newsletter entitled "ADS User Support - Frequently Asked Questions" was submitted to SAO. Completion date 6/28/93.
- A follow-up email was sent to anyone who requested ADS information during the month of May. Completion date 6/16/93
- A new ADS introduction letter and mailing list were created out of the RGO list of ~9000 Astronomers. Completion date 6/18/93. This letter was sent out to 5650 astronomers with internet email addresses.
- Materials preparation for the ASP meeting in July were completed. This included taking 48 pictures of the ADS and all the new services; creating a photo album with these pictures because an internet connection will not be available; updating the ADS poster display for easier setup. Completion date 6/31/93. Note: the pictures taken for this show can be easily transferred to transparencies for future presentations or color copied for future newsletters.
- A bug meeting at Ellery was held on 6/28/93. A review of the outstanding EOS reported bugs and EOS enhancement requests was completed.

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- On-line ADS help text updates with examples throughout and tutorials for each service. Projected completion date 9/30/93.

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- A proposal to the Astrophysics Grant Supplement for Education (AGSE) will be submitted to NASA. We will propose to develop and present an ADS teaching module to a CU College of Education class. Completion date 7/16/93.
- The second ADS science scenario will be mailed out to all ADS registered users. Completion date 7/16/93.
- The minutes from the ADS users meeting will be mailed out to all ADS registered users. Completion date 7/1/93.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 July, 1993

### USER SUPPORT (Cont'd)

#### CASA (cont'd):

#### PROBLEMS/CONCERNS:

- We have had four separate reported incidents from users all over the world (3 US, 1 German) where they could not access servers because the traders were unreachable from within the ADS client. The traders were accessible from the command line via ping or telnet. ESI is aware of the problem and is helping us track the cause. We are concerned that as our user base grows, we will start to see more of these kinds of problems with the traders. We are also concerned that some users have not reported this problem to user support.
- The confusion related to the email announcement for the ADS Users meeting at the AAS shouldn't happen again. We need to consolidate and publish our current email exploder lists.



Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 July, 1993

## TEST AND QA

### TASKS ACCOMPLISHED:

- Initial testing of new services was completed as part of the integration for the AAS demos. These new services included:

NDADS archive service  
 Einstein archive service  
 AGRA plotting service  
 New core ADS system  
 Modified help tool and help text  
 Completion date 6/2/93.

ISSA plate archive service  
 Simbad GUI  
 IPAC S image display service  
 Additional catalogs

- A generic krb.conf file with only hostnames was tested for all platforms. Updated tar files were sent to IPAC for incorporation into the release directory. Completion date 6/30/93.

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Final testing and intergration of new services and core development will be completed by the end of September. The lead person for each QA effort is listed below. The lead person will coordinate the QA effort by contacting the developer and organizing groups for stress tests. Schedules for QA completion are dependent on the delivery from the developer or supplier of data. EOS table Status file dates are updated weekly to reflect the changing schedules.

NDADS archive service  
 EOS archive service  
 ISSA plate archive service  
 Einstein archive service  
 Simbad GUI  
 AGRA plotting service  
 IPAC S image display service  
 New core ADS system  
 Modified help tool and help text  
 EOS patch update  
 SQLserver 2.0  
 Security services  
 Documentation server  
 Log handling  
 Coordinate handling  
 traderless RPI/SMS  
 Data dictionary tools  
 SAOimage server  
 Additional catalogs

Brian Drake  
 Gregg Allison  
 Alice Bertini  
 Michelle Neves  
 Geoff Clayton  
 Gregg Allison  
 Michelle Neves  
 Jacque Anderson  
 Sally Schaller and Jacque Anderson  
 All CASA ADS staff  
 Alice Bertini  
 Gregg Allison and Alice Bertini  
 Sally Schaller  
 Not yet assigned  
 Not yet assigned  
 All CASA ADS staff  
 Rebecca Davis  
 Not yet assigned  
 All CASA ADS staff

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 July, 1993

## TEST AND QA

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

**Note:** The additional catalog QA work has been divided up equally amongst the CASA ADS staff. Each team member has been assigned approximately 12 catalogs to QA. Some of the QA work is on existing catalogs that have been updated or modified. These include the following:

Gregg Allison	- do, fk5, gcvs, ngc2000, parallax, pln reflect, gc, nlrt, nlrt_notes, acrs1, acrs2
Jacque Anderson	- qsoagn_agn, qsoagn_bl, qsoagn_qso, qsoagn_ref, bulletin, hii, ppmn, ppms, openclus, interfer, findlist, findlist_rem
Alice Bertini	- redshift, sao2000, seyfert, seyfert_ref, rosid, agk3, dmsort, saosort, rasort, selected, snr
Michelle Neves	- rc3, wfcbse, rosao, konus, rosuspssc, wds_adssort, wds_dmsort, wds_hdsort, wds_nameidx, wds_namesort, wds_pos, wds
Sally Schaller	- rospubli, abell, cosb, td1, asteroid_dis1, asteroid_dis2, asteroid_fam, asteroid_ltrcv, asteroid_mag, asteroid_pole, asteroid_prop, asteroid_taxon

### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- QA work on some of the tasks listed above will be completed.

### PROBLEMS/CONCERNS:

- There needs to be a clear definition of what will be included in the September release. Code freeze deadlines for developers also needs to be set.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 July, 1993

## SYSTEM INTEGRATION

### TASKS ACCOMPLISHED:

The primary work at Ellery during June has been to continue work on development and enhancement of several ADS services:

- Work on the new RPI/SMS-based SQL server was nearly finished during June by Brett Milash, Dennis Whalen, Jeff Stoner, and Kyle Habermehl.
- Several meetings were held to coordinate SQL activities including design meetings, status, and test meetings. A set of SQL test plans were developed, reviewed and completed on the various platforms. This included extensive usage/stress tests, failure tests, etc. This testing uncovered some new problems with RPI/SMS that will be fixed in the patch release to be delivered in July.
- All work was completed for EOSserver testing, bug fixing, and documentation and deliverables to ADS were prepared.
- Andrew Wang worked on enhancements to the ANSA-based RPI and SMS that will mimick the capabilities of the DCE-based versions and eliminate the need for special trader programs within ADS.

Other ADS support activities during the month included:

- Brett Milash provided support to ADS QA at CASA on both IDL and Kerberos aspects of the system. He also provided widget information to Carolyn Stern Grant at SAO.
- Clark Fishback updated the ADS buglist, checked ADS bugs and organized an ADS bug meeting on June 28. Attending the meeting were Kyle Habermehl, Randall Gaz, Don Roberts and Andrew Wang as well as members of the CASA ADS QA team.
- Don Roberts investigated problems found while running tests of the EOS kernel and the server architecture; extended the coverage of EOS kernel functions by QA test libraries and verified ADS bug fixes.
- Randall Gaz began testing the July EOS release to CASA as well as supported the integration of the Visual Browser Tool into ADS with Paul Pinkney.
- ESI internal release planning meetings were held to ensure that all ADS reported bugs get fixed into the July update and to discuss which other ESI bug fixes need to additionally be ported to the ADS ANSA version of the kernel software.
- Kyle Habermehl participated in weekly ADS conference calls.
- Project management, reporting and planning support were also done for the ADS by Geoff Shaw, Lowell Schneider, Jeff Jordan, Nathan Vanderhoofven, Sherry Nauss, and Jeff Stoner.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 July, 1993

### SYSTEM INTEGRATION (Cont'd)

#### ANTICIPATED ACTIVITIES FOR THE NEXT REPORTING PERIOD:

- Completion of modifications to new architecture SQL server along with modifications to ADS C-Lite code to integrate into ADS. The file transfer, EOSserver will also be completed. Testing will be done and the new services will be delivered to ADS.
- Work will continue on a prototype of the ANSA/DCE RPI/trader architecture.
- Ongoing bug fixes and support to project as needed.
- Participation in discussions of new ADS services.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 July, 1993

## DEVELOPMENT

### SAO

#### TASKS ACCOMPLISHED:

##### Abstract Service:

- Updated Abstracts Service to use SIMBAD bibliography codes throughout.
- Answered numerous user questions about Abstract database content, use of Abstracts Service, and status of foreign users with relation to the Abstracts Service.
- Began rebuilding abstracts database to improve accuracy of journal listings and to prepare for first data update.
- Rewrote abstracts loading, indexing software in Perl to make it more robust, compact and flexible.
- Added new features to support more complex extraction of data from NASA RECON data tapes.

##### Einstein Archive Service:

- Met with Einstein personnel to discuss improvements to Einstein Archive service.

##### SIMBAD Service:

- Continued debugging and improving prototype of SIMBAD server.
- Maintained close contact with SIMBAD staff in order to create similar interfaces.

##### Coordinate Conversion Service:

- Continued work on coordinate conversion widget.
- Finalized specs for coordinate conversion service.

##### SAOimage Service:

- Implemented SAOImage Server platform. Built a widget which included the most common SAO Image menu items.

##### Miscellaneous:

- Attended the Special Libraries Association annual meeting to introduce university astronomy librarians to the ADS Abstracts Service. Gave a talk and a hands-on demonstration.
- Attended the 182nd AAS conference in Berkeley, set up equipment, gave demonstrations, met with developers.
- With ADS collaborators, planned additional development activities
- Installed GNU make, X11R5, other software on HP platform.
- Installed additional disk for abstracts service.
- Continued preparing new radio catalogs for inclusion with next release of ADS.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 July, 1993

### DEVELOPMENT (Cont'd)

#### CASA

#### TASKS ACCOMPLISHED:

- A DIP was submitted for the ADS Add-On Service Developer's Guide. Completion date 7/2/93.

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- A dip for the generic file transfer service will be submitted to the development group. This service will be incorporated into other services including the NDADS archive service and the Einstein archive service.
- A DIP for a ADS User Information service will be submitted to allow ADS users to query the ADS user database and RGO database of Astronomers for specific user information like address, phone, and email address.
- Brian Drake is working with Kevin Volk and Sun Kwok at the University of Calgary to create and archive service for the LRS data. Expected completion date 8/1/93.
- Chapters 6 and 7 of the ADS developer's guide will be distributed to the project for review and comments. Expected completion date 8/30/93.
- Coordination of the updated Catalog access service to include all the various components included: DOCserver, Data Dictionaries, new SQLserver and SQL programs, catalog lists service, and coordinate conversion service.
- perl scripts are in the process of being written in order to parse the existing .fld files to create data dictionary files for each catalog.

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Work on the NDADS widget, NDADS server (with local EOSserver), and NDADS help text files will be completed.
- Revisions to the ADS core service widget will be completed that include suggestions from the AAS for a more clear listing of services. The ADS add-on installation service will also be updated.

#### PROBLEMS/CONCERNS:

- What services will depend on the generic file transfer service and how will this affect their delivery deadlines to QA since the generic file transfer service has not been completed yet?

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 July, 1993

## OPERATIONS

### ADS USER/USAGE STATISTICS:

	IPAC2	IUE	PSU	SAO <sup>1</sup>	HEASRC	STSCI	CASA	EUVE
startup :	6	5	2		3	5	4	7
query :	496	66	194		451	114	436	15
schema :	785	64	190		447	113	408	15
retrieve :	3582	504	207		789	2591	8711	247
abort :	767	59	155		405	105	400	14
report :	253	1457	1441		1462	138	1118	1048

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

### Abstracts

user	logins	queries	short	long	list
180	583	4427	18869	4050	25860

- users* - Number of distinct users using the abstract service
- logins* - Number of logins into the abstract service
- queries* - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).
- short* - Number of lines of short abstract information retrieved (authors and titles).
- long* - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

<sup>1</sup> Not available this month

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 July, 1993

### SUPPLIERS OF DATA

#### CASA

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Work related to the p-cygni archive by Dough Lindholm, a summer graduate student working with the CASA ADS group, was started. This includes creating a data dictionary for the meta-data catalog, reducing data, and converting data from iue .sav to fits format. Anticipated completion date 9/30/93.



Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 July, 1993

Achievement: \_\_\_\_\_ E. Olson (CEA/Berkeley)

**SUPPLIERS OF DATA (Cont'd)****CEA****TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

Status as of: 1 July, 1993

### **SUPPLIERS OF DATA (Cont'd)**

#### **HEASARC/GSFC**

##### **TASKS ACCOMPLISHED:**

- Fixed a few bugs with the local SQL server.
- Submitted 10 new catalogs to the ADS Q&A.

##### **WORK IN PROGRESS:**

- Working on the BROWSE GUI local service software.

##### **ANTICIPATED DELIVERIES FOR NEXT REPORTING PERIOD:**

- BROWSE GUI local service software.

**SAO**

**ASTROPHYSICS DATA SYSTEM**

---

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Mazzarella (IPAC)

Status as of: 1 July, 1993

**SUPPLIERS OF DATA (Cont'd)**

**IPAC/CALTECH**

**TASKS ACCOMPLISHED:**

Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ P. Lawton (IUE/GSFC)

Status as of: 1 July, 1993

### SUPPLIERS OF DATA (Cont'd)

#### IUE/GSFC

##### TASKS ACCOMPLISHED:

- IUE installed the SunOS patch necessary to resolve the "shmctl: Permission denied" error that occurs when ADS 3.2 is started on iuesn1.
- Staff members assisted local ADS users in getting started with the ADS and with learning how to use the Abstract Server.
- Provided a local researcher with access to the ADS via the IUEGUEST account to determine if the person wanted their own ADS account.
- Information was provided to LASP personal about the requirements of the ADS User software.
- Communicated with Alice Bertini to clarify the meaning of "valid range" in catalog documentation. This will improve our documentation.

##### WORK IN PROGRESS:

- The IUELOG and IUEFES catalogs are being updated.

##### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Updated versions of the IUELOG and IUEFES catalog will be ready for implementation.

##### ADS User/Usage Statistics:

###### June

- query	66
- retrieve	504
- schema	64
- status	65
- abort	59
- report	1457
- export	15
- export_failure	0
- startup	5
- withdraw	15
- shutdown	5
- query making users	19
- total users	23
- new users	6

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 July, 1993

**SUPPLIERS OF DATA (Cont'd)****PSU****TASKS ACCOMPLISHED:**

Nothing to report.

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ M. Garcia(SAO)

Status as of: 1 July, 1993

**SUPPLIERS OF DATA (Cont'd)**

**SAO**

**TASKS ACCOMPLISHED:**

Nothing to report.

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ A. Farris (STScI)

Status as of: 1 July, 1993

**SUPPLIERS OF DATA (Cont'd)****STScI****TASKS ACCOMPLISHED:**

Nothing to report.





## **ADS Project activities for July and August 1992**

Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 September, 1993

### SUMMARY

The project decided on a new release schedule:

11 January 1994: Next major release. This release will include major architectural improvements.

Late spring 1994: Major release. This release will include the new networking software, closely following DCE standards in preparation for eventual migration to full DCE compliance.

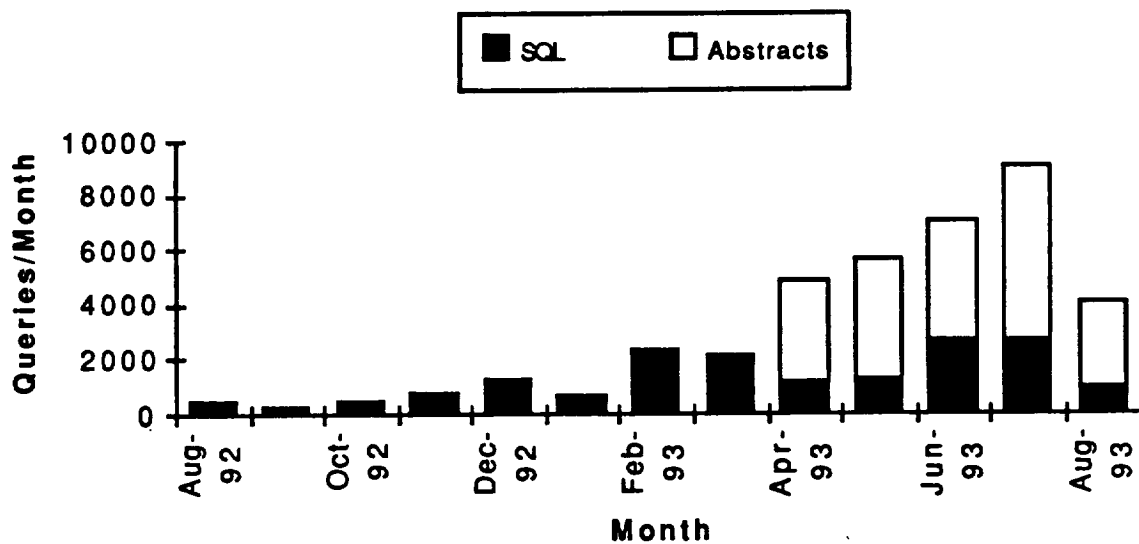
The user statistics are shown on the next 2 pages. The first page shows the login statistics for only those persons not affiliated with the ADS project. The second page shows the usage of the system. The usage for August is down from last month due to the summer recess.

The number of users as of the end of August 1993 was 1311, an increase of 63 over last month.

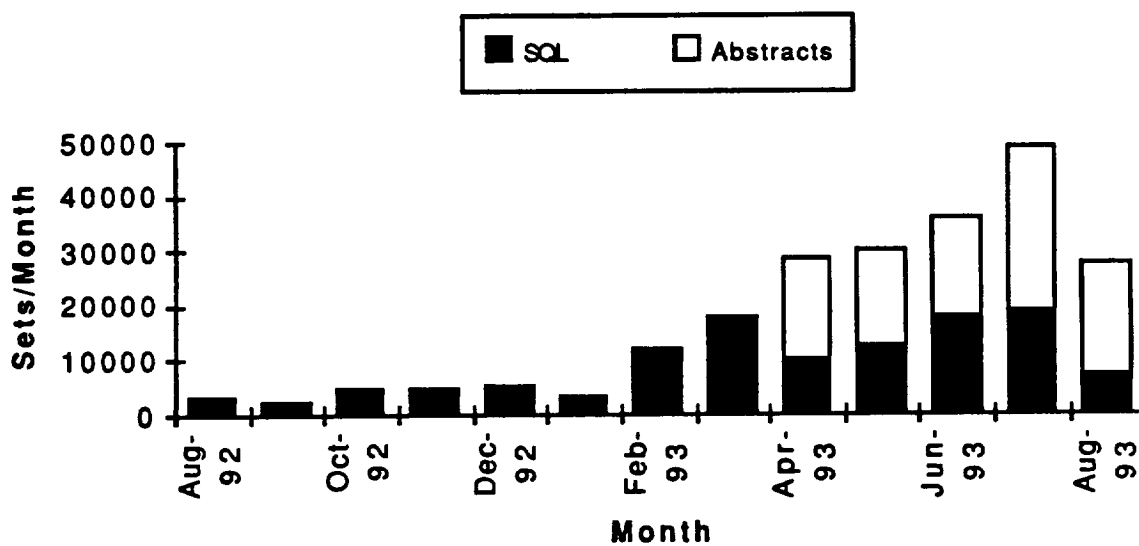
Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 September, 1993

### Number of Queries



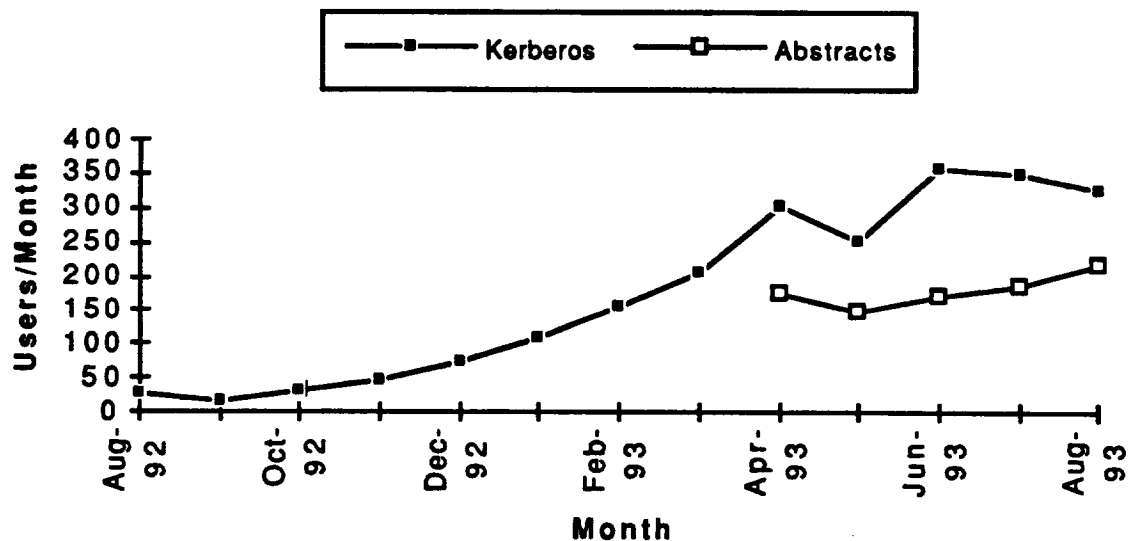
### Number of Retrieved Data Sets



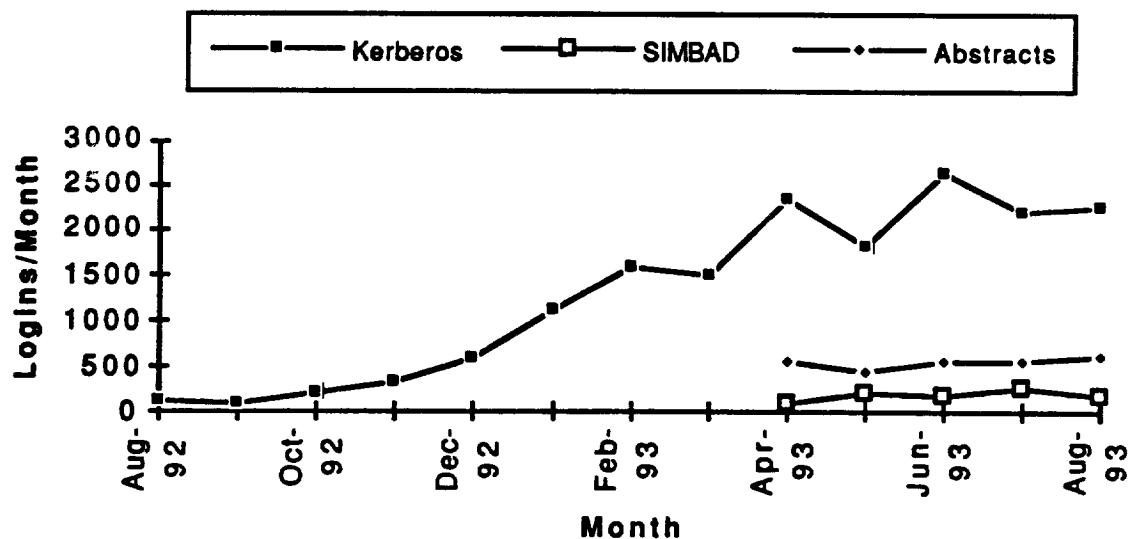
Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 September, 1993

### Non-project Users



### Non-project Logins



Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 September, 1993

## ADMINISTRATIVE

### TASKS ACCOMPLISHED:

The main task in August was the evaluation of new networking software. A prototype of a new networking package was tested in order to determine whether we can include it in the next release to replace the proprietary ANSA protocol. During the project meeting on 1-2 September the results of these tests were reviewed together with a general review of the release schedule. The result was that the next release was postponed till 11 January 1994 to allow more time to finalize the basic architecture changes like dynamic service inclusion and dynamic catalog addition. This release will not include the new networking software. There will be another release in late spring of 1994 that will include the new networking protocol. No major architectural changes are planned for that release.

Guenther Eichhorn and Alice Bertini attended the users interface workshop at Goddard. Alice gave a presentation about ADS which was well received. Guenther co-chairs one of the working groups (ui-db) that were formed during this meeting. Altogether four working groups were formed:

ui:	General e-mail list for the UI group
ui-db:	Data base access (Guenther Eichhorn, Tom McGlynn)
ui-ftp:	Data directory organization and file naming conventions (Nick White)
ui-mosaic:	Documentation organization standards using mosaic (Archie Warnock)
ui-style:	Style guide for GUI development (Rich Simon)

You are invited to become a member of any or all of these working groups, and especially of the group(s) to which you wish to contribute. If you wish to become a subscriber, please send an e-mail message to:

majordomo@head-cfa.harvard.edu

The mail should contain one or more Majordomo "subscribe" commands in the body of the message:

```
subscribe <mailing list>
e.g.,
subscribe ui
subscribe ui-ftp
end
```

If either you or your mailer add a signature to your mail message, please add the "end" command after the last "subscribe" command in order to prevent the signature from being interpreted as Majordomo commands (which will generate non-fatal errors).

Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 September, 1993

### ADMINISTRATIVE (Cont'd)

#### TASKS ACCOMPLISHED (cont'd):

To send mail to other subscribers, use one of the following e-mail addresses:

ulistname@head-cfa.harvard.edu

*e.g.,*

ui-ftp@head-cfa.harvard.edu

If you ever want to remove yourself from this mailing list, send the following command in email to "Majordomo@head-cfa.harvard.edu":

unsubscribe ui yourname@your.host.name

For more information on Majordomo, send the "help" command to the majordomo e-mail address listed above or to "Majordomo@GreatCircle.COM" (the birth place of Majordomo).

Discussions with potential new nodes continued. The University of Minnesota node is being tested right now. It should be on-line in the next release with a preliminary data set. More data will come on-line as they become available.

Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 September, 1993

### ADMINISTRATIVE (Cont'd)

#### LAST MONTHS PROBLEMS/CONCERNS:

##### *CASA/User Support:*

- There has still been no decision by the project on the level of ADS support to be offered to DECstation 5000 users.

A: The ADS plans to continue support for the DECstation 5000. We are in the process of trying to get a DECstation for Ellery so they can fully support EOS on that platform.

##### *IUE/GSFC:*

- IUE is concerned about the loss of VT100 support if version 2.5 is no longer available to users.
- A: Because of the tight budget it is not possible to maintain a character based interface to the ADS. We are currently evaluating the possibility of developing a scaled down version of ADS that uses a character based interface, but no concrete plans exist for its implementation.
- IUE staff were under the impression that the kerberos time tolerance had been increased from 5 minutes. A recent problem however seems to indicate that this was not the case. Could this tolerance be increased or could at least a warning be displayed before the time limit is exceeded?

A: The five minute clock tolerance is compiled into the client software that has been distributed to our 1300+ users. There is a major upgrade to the system happening in the next few months, requiring all users to update their installation, and we could change the tolerance at that time. However, the reason for this tolerance is to enhance security by lowering the possibility of someone recording the transaction and replaying the messages. Since the problem arises because of an in It would be far better if the few people who are having timeout problems would adjust their system clocks to the correct time, preferably through the use of network time services.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

## SYSTEM ENGINEERING

### TASKS ACCOMPLISHED:

Listed below are the development tasks currently being undertaken by the ADS Project. Assignments (or tentative assignments) are shown by institution in the summary and by responsible party in the status section.

This version of the list has been modified previous ones to conform to the updated Work Breakdown Structure. The two will henceforth be maintained in parallel. This modification is still in progress and has yet to be reviewed by the participants. No new commitments on their part are as yet official (there should be none but I wanted to be careful). Neither has the updated WBS been officially accepted.

#### 2.1 ADS 2.0 Consolidation

This work is all complete.

#### 2.2 Infrastructure

- |       |                      |   |
|-------|----------------------|---|
| 2.2.1 | Core ADS System      | -- User interface, installation structure   |
| 2.2.2 | RPI/SMS              | -- Infrastructure for distributed computing |
| 2.2.3 | EOSserver            | -- EOS in server mode (for archive access)  |
| 2.2.4 | Security Services    | -- Authorization checking                   |
| 2.2.5 | Secure File Transfer | -- General mechanism for transferring files |
| 2.2.6 | Transfer Monitor     | -- Coordinate file transfers for all srvc's |
| 2.2.7 | Developer's Guide    | -- How to build and operate ADS services    |
| 2.2.8 | CUI                  | -- Character-terminal user interface        |

#### 2.3 Operations / Management Tools

- |       |                   |  |
|-------|-------------------|--|
| 2.3.1 | Log Handling      | -- Statistics and reporting                |
| 2.3.2 | Monitoring        | -- Service availability, usage             |
| 2.3.3 | Bug Server        | -- Bug report submission                   |
| 2.3.4 | Authenticated FTP | -- FTP server with KERBEROS authentication |
| 2.3.5 | Mission Planning  | -- Generic mission planning tools          |
| 2.3.6 | DB Validation     | -- Automated validation of data sets       |
| 2.3.7 | QA Test Suites    | -- Procedures for checking services        |

#### 2.4 Archive Access

- |       |                    |   |
|-------|--------------------|---|
| 2.4.1 | Abstract Server    | -- Access to abstract database          |
| 2.4.2 | NED Server         | -- Interface to NED database            |
| 2.4.3 | NDADS Archive      | -- Access to all the ADC data at NSSDC  |
| 2.4.4 | EINSTEIN Archive   | -- Access to Einstein satellite data    |
| 2.4.5 | IPAC Plate Archive | -- Access to infrared ISSA plates       |
| 2.4.6 | SIMBAD             | -- General interface to SIMBAD          |
| 2.4.7 | IUE Archive        | -- Access to raw and processed IUE data |



Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

## SYSTEM ENGINEERING (Cont'd)

### TASKS ACCOMPLISHED (cont'd):

#### 2.4 Archive Access (cont'd)

- |        |                      |   |
|--------|----------------------|---|
| 2.4.8  | UMinn POSS1 Data     | -- Access to the digitized POSS1 plates   |
| 2.4.9  | Abstract Svc Upgrade | -- Upgrade and possible port to HP        |
| 2.4.10 | Data Compression     | -- To save bandwidth during file transfer |

#### 2.5 Catalogs and Tables

- |        |                      |  |
|--------|----------------------|--|
| 2.5.1  | Catalog Access       | -- Access to catalog data                      |
| 2.5.2  | SQL Server           | -- Updated service to RDBMSs                   |
| 2.5.3  | Documentation Server | -- Distributed access to document files        |
| 2.5.4  | Data Dictionary      | -- Information on catalog units and formats    |
| 2.5.5  | Coordinate Handling  | -- Both as service and policy                  |
| 2.5.6  | QBT                  | -- Query by Table (simpler catalog query)      |
| 2.5.7  | Table Calculator     | -- Simplified table manipulation               |
| 2.5.8  | Proximity Join       | -- Joining tables on positions                 |
| 2.5.9  | Correlation Tools    | -- Comparing of tables from different catalogs |
| 2.5.10 | Query Fan-Out        | -- Querying multiple catalogs at once          |
| 2.5.11 | Natural Language     | -- Using natural language for data searches    |
| 2.5.12 | Dynamic Catalog Mgmt | -- Updating of catalogs on the fly             |

#### 2.6 Visualization

- |       |           |                  |
|-------|-----------|------------------|
| 2.6.1 | Plot Tool | -- XY plotting   |
| 2.6.2 | Skyview   | -- Image display |
| 2.6.3 | AGRA      | -- Sky mapping   |
| 2.6.4 | SAOimage  | -- Image display |

#### 2.7 Packages Interfaces

- |       |             |                               |
|-------|-------------|-------------------------------|
| 2.7.1 | IRAF Server | -- General interface to IRAF  |
| 2.7.2 | IDL Server  | -- General interface to IDL   |
| 2.7.3 | WAIS Server | -- WAIS client as ADS service |

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

#### 2.2.1 Core ADS System

Michelle Neves (CASA)

By "Core System" we mean the organization, on the client side, of user services and UI functionality. This is distinct from the maintenance and organization of remote services and their operation. The goal here is to provide an environment where new or updated services can easily be added by a knowledgeable user. This work is crucial to get us into a mode where services can be incrementally added or changed.

STATUS: In final debugging and test at CASA.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### 2.2.2 RPI/SMS

Andrew Wang (ESI)

The RPI and SMS programs control communications to any ADS services running on a particular machine. This pair of processes is the core of the distributed computing capability used by ADS.

The most substantive work envisioned for the RPI/SMS software is the extension of the RPI to provide aspects of system security, service registration and location functionality. This is necessitated by the poor operability of the current ANSA Trader code. The basic design and implementation for this upgrade has been recently modified to include functionality for the ADS version of the software that has previously only been available in the DCE version.

Minor modifications have also been proposed to the logging and control schemes used to facilitate operations and reporting.

STATUS: Development is currently underway at ESI. Several minor problems have been uncovered by internal ESI testing and are currently being addressed.

##### 2.2.3 EOSserver

Kyle Habermehl (ESI)

In order to control general data access services (e.g. NDADS) which can take hours or even days to retrieve results, we plan to use an EOS server. This code is identical to the standard client EOS but runs as a background process and thus can be maintained from session to session.

STATUS: Delivered to CASA for test.

##### 2.2.4 Security Services

Steven Lo (IPAC)

These tools are necessary for complete security checking using KERBEROS. This functionality needs to be folded into the RPI, the FTserver, and packaged for use as a local service and set of libraries for service builders.

STATUS: Basic service package delivered to CASA for test and to ESI for incorporation into their modules. Work on this has not yet begun.

##### 2.2.5 Secure File Transfer

Brett Milash (ESI) / Steve Lo (IPAC)

A general file transfer service pair (send/receive) has been built by ESI and is currently in limited use as part of the IDL plotting tool in the current distribution. Full use of this service (e.g., in archive access services) requires an upgrade which will use the security software to check the authenticity and authorization of the requested transfer.

STATUS: In final debugging and test and CASA.

##### 2.2.6 Transfer Monitor

Gregg Allison (CASA)

Since many services will invoke file transfers at one time or another, it makes much more sense to coordinate these requests through one service than to have separate monitor functionality for each service.

STATUS: In final debugging and test at CASA.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

## **SYSTEM ENGINEERING (Cont'd)**

### **WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):**

#### **2.2.7 Developer's Guide**

Alice Bertini (CASA)

The real power of the ADS is that it allows data/processing service owners to turn their product into ADS services simply and quickly. In order to facilitate this while still maintaining some level of uniformity to interaction look-and-feel, we must establish and publish guidelines and procedures for new developers to follow.

**STATUS:** Outline and writing task assignments published.

#### **2.2.8 CUI**

Alice Bertini (CASA)

There is at present no good way for users with character terminals to access ADS functionality. A limited subset interface to such things as archive queries and catalog requests could be provided if there is sufficient interest.

**STATUS:** Design work for this task has not been scheduled.

#### **2.3.1 Log Handling**

Jing Li (IPAC)

Currently, our ability to determine system usage as a function of time or user is severely constrained by the format of log files and the data they contain. A generic log handling service (based on the EOSserver) will provide a wide range of statistical measures of system usage.

**STATUS:** Initial version of this code has been completed and is in development testing.

#### **2.3.2 Monitoring**

Jing Li (IPAC)

Part of the proposed enhancements to the RPI/SMS software are the hooks to allow Operations to reliably monitor and control services.

**STATUS:** The client tools to do this will be built as soon as this functionality in RPI/SMS is available.

#### **2.3.3 Bug Server**

Jacque Anderson, Sally Schaller (CASA)

The Bug Server would be a simple local server and widget to help the user construct reports and mail them to User Support.

**STATUS:** Initial design complete. Development not yet begun.

#### **2.3.4 Authenticated FTP**

Steven Lo (IPAC)

A version of the standard FTP daemon has been written which uses KERBEROS authentication to the ADS user database to confirm the right to download system components.

**STATUS:** Done.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (Cont'd):

##### 2.3.5 Mission Planning (SAO?)

One long term objective being considered by the ADS Project is the development of distributed mission planning and mission operations tools to support many missions. A preliminary study has shown that many of the mission planning tools currently in use have a core of similar functions that are "re-invented" by each mission center. In addition, the interface of mission planning tools with the user community varies with each mission, requiring that scientists learn several slightly different systems. The ADS can be helpful in supplying missions with a library of planning tools, and a standard user interface. This will allow mission resources to be concentrated on mission specific requirements. It offers the user community a simpler mechanism for developing observation requests in response to NASA AOs, particularly through the use of electronic preparation and submission of these requests.

STATUS: Design work not yet scheduled.

##### 2.3.6 DB Validation (CASA)

Automated procedures to confirm that the data retrieved via ADS are not different from the original data source. Test and QA along with the Project Office make an initial verification of data when it is first made available via ADS. In order to assure that changes to these data are not introduced by the system, regular sampling of the databases is made and compared with reference results.

STATUS: Done for first release of ADS. No further work currently planned.

##### 2.3.7 QA Test Suites (CASA)

As part of Quality Assurance, CASA will maintain and update a regression testbed of information and a suite of procedures that test ADS functionality. This is distinct from the operational monitoring required of Operations and is for a quite different purpose: spot-checking and regression analysis rather than real-time monitoring.

STATUS: On-going.

##### 2.4.1 Abstract Server Guenther Eichhorn / Carolyn Stern Grant (SAO)

The Abstract Server provided remote access to a database of abstracts culled from the Astrophysics literature by NASA RECON.

After some minor adjustment during the first phase of operation (and additional coding within the core system to meet new security constraints required by NASA), the Abstract Server is now in full operation.

STATUS: Updated service/user interface modules delivered to CASA for test.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

## SYSTEM ENGINEERING (Cont'd)

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

#### 2.4.2 NED Server

John Good (IPAC)

The NED database contains a large amount of data about extragalactic sources, including basic data on positions and fluxes, abstracts and references, etc. The initial ADS interface, at the request of the NED project, has been limited to accessing basic name and positional information.

In the longer term, many people have expressed a desire for more of the NED functionality beyond the basic name/position resolution currently offered. It is unclear whether this should be an ADS task or left to the NED project.

STATUS: In operation. Minor upgrades for operational reliability planned but development not yet begun.

#### 2.4.3 NDADS Archive

Gregg Allison (CASA)

The NDADS server is our main prototype for raw data archive access. It is considered the highest priority item for ADS this fiscal year. A prototype server was built by ADS and delivered to NSSDC for final integration with their database software. NSSDC has been concentrating on the basic access to the data; the work on our end has been infrastructure integration (EOSserver / Archive (e.g., NDADS) server / FTserver) and user interface.

STATUS: Delivered to CASA for test.

#### 2.4.4 EINSTEIN Archive

Todd Karakashian (SAO)

The EINSTEIN archive server will provide meta-data tables as well as real data tables and images of EINSTEIN data. In structure this service is similar to the NDADS server, and some of the same functionality has been reused.

STATUS: Delivered to CASA for test.

#### 2.4.5 IPAC Plate Archive

John Good (IPAC)

IPAC is putting on-line all of the ISSA infrared sky images which cover the whole sky in a regular pattern. This service allows a user to request an image or part of an image centered on a particular sky position.

STATUS: Delivered to CASA for test. Some minor upgrades are planned before general operation begins.

#### 2.4.6 SIMBAD Server

Carolyn Stern Grant (SAO)

Where NED provides access to information on extragalactic objects, SIMBAD provides it for stellar objects. The type of service is similar and we hope to be able to reuse parts of the NED interface code.

STATUS: In development at SAO.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### 2.4.7 IUE Archive (CASA?)

IUE data is available through the NDADS service, but there is still a need for a meta-data search capability to help the user locate the correct data sets to request.

STATUS: Design has not begun.

##### 2.4.8 UMinn POSS1 Data (IPAC?)

The University of Minnesota has scanned the POSS-1 plates and created a database of sources detected. This data can and will be accessed through a standard SQLserver. The project will, if necessary, lend some assistance to UMinn in setting this up since this is a uniquely valuable resource for the community.

STATUS: Design has not begun.

##### 2.4.9 Abstract Svc Upgrade Todd Karakashian (SAO)

The Abstract Server, while quite successful and capable, was a venture into new territory and will certainly need updating as we gain experience. In addition, it has been proposed to migrate the server to a faster platform for added throughput.

STATUS: Design has not begun.

##### 2.4.10 Data Compression (SAO?)

Determine the feasibility and usefulness of data compression for bulk data transfer. If the study determines that data compression would be useful, this task would implement data compression for large-volume data.

STATUS: Study has not begun.

##### 2.5.1 Catalog Access Alice Bertini (CASA)

The current catalog access interface distributed with the ADS client was the first service built and makes use of the first generation SQLserver and catalog documents that must be distributed with the system. As is typical of such endeavors, it suffers from learning curve problems.

In migrating to the new SQL Server and Documentation Server, we must also update the integrated Catalog Access environment. We plan to make use of this opportunity to add some functionality to handle casting of coordinate from one catalog representation to another (a "Data Dictionary" mechanism). This additional functionality is considered critical by our user community and should greatly enhance catalog interoperability.

STATUS: In design.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

## SYSTEM ENGINEERING (Cont'd)

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

#### 2.5.2 SQL Server

Brett Milash (ESI)

With the update to the distributed processing architecture that is currently being tested, the old SQL server access to catalog databases needed to be updated as well. In particular, support for the new service access architecture and for FITS data transfer.

STATUS: Delivered to CASA for test.

#### 2.5.3 Documentation Server

Michelle Neves (CASA)

The DOCserver is meant to provide a standard mechanism for users to obtain textual data from any server site. This will include timestamp checking to allow for dynamic updating, so that we can be sure that all users are seeing the same documentation.

This functionality is critical to get us out of the mode of distributing documentation on all the catalogs (and therefore requiring massive system releases).

This service will make use of an existing document handling system called MOSAIC for most of its functionality.

STATUS: In design and prototyping development.

#### 2.5.4 Data Dictionary

Alice Bertini (CASA)

Intercomparing catalogs is usually a matter of checking for positional coincidence. Since existing catalogs currently use a variety of coordinate naming and representation schemes, it is necessary that we have some mechanism for determining this information on a catalog-by-catalog basis. The simplest way to do this is with a standard DBMS "data dictionary" approach. This task is to provide the mechanisms to implement a data dictionary and to provide the hooks for the catalog access system to make use of it.

#### 2.5.5 Coordinate Handling

Carolyn Stern Grant (SAO)

Since coordinates play such a pivotal role in astronomy, we have found it necessary to provide a consistent and uniform set of coordinate handling tools for ADS users and developers. These basic tools will be used extensively, not just by ADS for its internal development but by potential service providers as well.

STATUS: Delivered to CASA for test.

#### 2.5.6 QBT

Todd Karakashian (SAO)

The current Query-By-Example (QBE) functionality in ADS has been found to be cumbersome for most applications and at the request of our users we are planning a more user-friendly interface that uses a more compact, tabular form. This Query-By-Table (QBT) should greatly improve the usability of the current Catalog Access but the effort currently has low priority since it results in no new basic functionality.

STATUS: Initial design complete. Final design effort not yet scheduled.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### 2.5.7 Table Calculator

Gregg Allison? (CASA)

There are many functions that scientists want to perform on tabular data that are not typically found in commercial DBMS software, nor is the interfaces available in these environments flexible enough for the kind of detailed analysis that scientists need to do. With the functionality already available in ADS, it should be straightforward to provide better tabular analysis tools.

STATUS: Design not yet scheduled.

##### 2.5.8 Proximity Join

? (SAO?)

The primary mode that astronomers use in comparing tables of sky objects is to check the proximity on the sky of sources. This function is not currently supplied by commercial DBMSs (in fact, is at odds with the standard relational model which only deals with "equi-joins"). This task would be to provide a mechanism for "joining" two tables on the basis of the proximity of two objects in it.

STATUS: Design not yet scheduled.

##### 2.5.9 Correlation Tools

? (SAO?)

The basic ADS system contains a simple correlation function which compares catalog tables on the basis of positional coincidence. Other correlation functions based on source properties, classifications, names etc are possible. Tools for generating these correlations will be developed and added to the system.

STATUS: Design not yet scheduled.

##### 2.5.10 Query Fan-Out

? (SAO?)

It is often desirable to use the results of a query as the basis of follow-up queries to multiple catalogs for multiple objects. The Fan-out tool will provide a GUI widget to create the multiple follow-up queries and to collect the results in a single response.

STATUS: Design not yet scheduled.

##### 2.5.11 Natural Language

? (SAO?)

Determine the feasibility of using natural language queries for data retrieval.

##### 2.5.12 Dynamic Catalog Mgmt

? (SAO?)

Implement the dynamic addition and removal of catalogs. In ADS 2.0 the catalogs are hardcoded in the user release. With the dynamic catalog management, new catalogs can be brought on-line without requiring a new user release.

STATUS: Superseded by the work on Catalog Access and Documentation Service.



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### 2.6.1 Plot Tool

Gregg Allison (CASA) / John Good (IPAC)

The current plot tool distributed with the system is based on a prototype IDL service developed at CASA and requires IDL (either local or remote) to run. A small amount of fine tuning of this functionality is warranted, but the service is essentially done.

Preliminary work has also been done on integrating in an existing portable graphics package (SM) -- so we can offer software to people that they can run on their own machines -- though this work is considered low priority.

STATUS: IPAC is currently working on the plot engine using PLPLOT rather than SM. CASA will handle the GUI for this once it is done, building on the IDL work.

##### 2.6.2 Skyview

John Good (IPAC)

Skyview is a program developed at IPAC for display and analysis of astronomical images in various formats. This work is funded by IPAC and has no direct relationship to ADS or funding by it.

The Skyview program has been integrated into the ADS as a local service. This was completed some time ago and has been shown to several groups. It has not been incorporated into the ADS release, however, for three reasons. First, IPAC has not gotten final approval to distribute the software themselves (rather than through COSMIC). Second, there has not been time to adequately test the ADS interface. Finally, there is very little call for this service until ADS provides access to image databases.

STATUS: Delivered to CASA for test.

##### 2.6.3 AGRA

Jing Li (IPAC)

This local service is self-contained code for turning coordinate tables into sky maps (various projections). The development has been slow since this is not a high priority item. This service is designed to allow easy use as either an ADS server body or a stand-alone program and is integrated with both ADS services which return positional tables (NED, SIMBAD, Catalog Access) and with image display services (providing coordinate, point source, and area overlays).

STATUS: Delivered to CASA for test. Proposed upgrades from CASA are currently in development.

##### 2.6.4 SAOimage

Carolyn Stern Grant (SAO)

SAOimage is an image display program widely used in the astronomical community, partly due to its links to the IRAF package. SAO has undertaken to build an ADS interface themselves, so the only Project task is to QA it.

STATUS: Delivered to CASA for test.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

### SYSTEM ENGINEERING (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

##### 2.7.1 IRAF Server ? (SAO?)

The goal of IRAF was to provide a set of data processing and analysis services. This meshes extremely well with the ADS functionality to provide distributed access to such services. In addition the interfaces of the two systems are constructed in such a way as to allow melding of the systems with minimal impact on either.

STATUS: No work yet planned.

##### 2.7.2 IDL Server ? (CASA?)

IDL is widely used in the astrophysical community for visualization and analysis of local data sets. Combining this functionality with ADS should produce a general distributed data processing environment of great power.

STATUS: No work yet planned.

##### 2.7.3 WAIS Server Todd Karakashian? (SAO?)

WAIS provides distributed access to a number of textual databases around the country. Rather than replicating this functionality, it makes sense for the ADS to tap into the existing services. The simplest way to do this is to create a custom WAIS client that would run as a local ADS service. Not only do we then have access to all WAIS functionality, but we add the value of the ADS GUI interface and additional data processing tools to WAIS.

STATUS: No work yet planned though this may follow on closely to the MOSAIC Documentation Server work that is ongoing.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 August, 1993

### USER COMMITTEE

#### PSU:

- Nothing to report

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 September, 1993

## USER SUPPORT

### CASA:

The month of August was spent primarily testing the EOS 3.20 preliminary release. Development work continued on the core system, file transfer service, and catalog access service. Testing of new services and catalogs was done as originally scheduled.

### TASKS ACCOMPLISHED:

- User Support statistics for the month:
  - New users: 63
  - New US users: 39
  - New non-US users: 24
  - Total users as of 8/31/93: 1311
  - Total US users as of 8/31/93: 1095
  - Total non-US users as of 8/31/93: 216
  - Information requests: 32
    - \* answered questions: (includes "answered bin" and phone calls) 91
    - \* resolved problems: (multiple messages for each of these) 17
- Foreign users and potential users were notified that the abstract service is now available to non-US based researches for a trial period of 6 months.
- A correction to the 6/93 Users Meeting Minutes was mailed out to all registered users.
- Presentation overheads and an abstract describing the ADS were created for the User Interface workshop held at GSFC. Alice Bertini attended the workshop and gave a presentation in support of the ADS project.
- A follow-up email was sent to anyone requesting ADS info during the month of July.

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Programs in perl and C-lite are in progress to create the new "institution" field in the users.tbl derived from the email extension.
- The astro.db is in the process of being loaded into Ingres for the Directory Service access.
- Work is in progress to convert all the ADS on-line help text into HTML formatted text to be used with mosaic.

### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Final deadlines for the next release and additional user support goals will be defined after the project meetings in early September.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 September, 1993

## TEST AND QA

### TASKS ACCOMPLISHED:

- The following set of catalogs and documentation have been QA'd: fk5, gcvs, ngc2000, seyfert\_ref, rad\_20cm\_galpl, rad\_4c, rad\_compact, rad\_drao, rad\_iras, rad\_lunar, rad\_texas\_365, rad\_lunar\_flux, rad\_lunar\_327, rad\_a1314, wds\_adssort, wds\_dmsort, asteroid\_taxon
- A version of the Abstract Service was tested and made available to foreign users.

### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

(Note the projected completion dates for these tasks will be defined during the September project meetings when schedules are discussed.)

- Catalog QA work includes the following catalogs: redshift, agk3, dmsort, saosort, rasort, selected, snr seyfert, wds, hii, ppmn, ppms, openclus, interfer, findlist, findlist\_rem rc3, aps\_poss, iuelog, iuefes, wfcbsc, rosao, rospub, abell, cosb, bulletin, konus, rosid, rosuspspc, td1, gs, rad\_iras\_brgal, rad\_pks\_8400, rad\_pks\_optir parallax, pln, reflect, gc, nlrt, nlrt\_notes, acrs1, acrs2 wds\_hdsort, wds\_nameidx, wds\_namesort, wds\_pos
- QA feedback for the AGRA sky mapping service was communicated back to IPAC.
- The EOS 3.20 preliminary release is in the process of being QA. Identified bugs are being reported back to Ellery.
- QA work on the core ADS system continues. Some redesign of the main panel was discussed and sent out for peer review.
- Initial QA work on the SQLserver 2.0 and data dictionary tools has been started.
- QA work on the EOSserver in conjunction with the ADS File Transfer Service is in progress.
- Additional services that are in the process of being QA'd include:
  - Security services
  - Documentation service (Mosaic)
  - ISSA Plate Archive service
  - Coordinate handling service
  - IPAC Skyview service
  - Abstract service II with interface to SIMBAD
  - NDADS Archive service
  - Einstein Archive service
  - SAOimage service

### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Final deadline dates will be defined for the next release. These deadlines will determine the extent of QA work completed for each service and the number of services to be QA'd.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 September, 1993

## SYSTEM INTEGRATION

### TASKS ACCOMPLISHED:

The primary work at Ellery during August has been to prepare and test two software updates for delivery to ADS QA at CASA:

- A software delivery was made to ADS QA at CASA on Wednesday, 04 August. CASA will test against ADS functionality while ESI continues testing toward a final release in September.
- Don Roberts worked on kernel testing and creating new tests. Randall Gaz did general testing. Tee Roberts did general RPI testing.
- An ADS bug meeting was held on Tuesday, August 31 with CASA to discuss all open bugs and their status. Kyle Habermehl, Clark Fishback, and Randall Gaz of ESI attended.

Other ADS support activities during the month included:

- Clark Fishback did managerial work, document updating and participated in ADS related discussions and meetings.
- Randall Gaz did ADS maintenance, provided general support and attended meetings.
- Kyle Habermehl participated in weekly ADS conference calls. He also did miscellaneous Motif/X Windows support, bug fixing and maintenance for UI server and RPI/SMS problems.
- Brett Milash helped Gregg Allison of CASA with the NDADS Archive service.
- Dennis Whalen and Jeff Stoner provided support on ADS questions from CASA and SAO.
- Andrew Wang worked on bug fixes for the RPI and SMS processes.
- A prototype C-Lite syntax checking program for the HP workstation was provided to CASA to assist in C-Lite development and QA.
- Project management, reporting and planning support were also done for the ADS by Geoff Shaw, Lowell Schneider, Jeff Jordan, Nathan Vanderhoofven, Sherry Nauss, and Jeff Stoner.

### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Final delivery of EOS version 3.2 will be provided to CASA on Friday, September 24th.
- A new development activity to replace ANSA/ANSA-trader based EOS will be initiated in late September or early October.
- Ongoing bug fixes and support to project as needed.
- Participation in discussions of new ADS services.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 September, 1993

## DEVELOPMENT

### SAO

#### TASKS ACCOMPLISHED:

##### Abstract Service:

- Responded to User Problems and Requests.
- Revised C-Lite code for release to foreign users.
- Tested new and old interfaces with new server body.
- Switched to new server body which allows foreign user access.

##### Einstein Archive Service:

- Fixed bugs
- Implemented search by 2E catalog number
- Revised code to use the coordinate conversion service.
- Integrated prototype file transfer service as file transfer mechanism.
- Wrote documentation on service and help text.
- Submitted to CASA for Q/A and release.

##### SIMBAD Service:

- Continued to improve User Interface.
- Revised code to use the coordinate conversion service.
- Implemented new features, including using the Abstract Server to retrieve abstracts from SIMBAD bibliographic codes.
- Met with SIMBAD representatives from Strasbourg to coordinate the look of ADS and SIMBAD interfaces.

##### Coordinate Conversion Service:

- Testing, resolving library linking problems
- Fixed bugs, code optimizations.
- Wrote documentation on service and help text.
- Submitted to CASA for Q/A and release.

##### SAOimage Service:

- Fixed Q/A problems reported by CASA.
- Streamlined the installation procedure to minimize configuration required by end user.

# **SAO            ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 September, 1993

## **DEVELOPMENT (Cont'd)**

### **SAO (cont'd)**

#### **TASKS ACCOMPLISHED (cont'd):**

##### **Document Display Tool:**

- Developed design for a local server to control NCSA MOSAIC
- Discussions with Ellery concerning possibly incorporating MOSAIC's HTML widget into Xmuisc.

##### **Text Search Service:**

- Began work on a DIP.
- Met with CASA collaborators to discuss Text Search Service (TSS).

##### **General:**

- Maintenance of HP workstation
- Assistance to Ellery in maintenance of DCE
- Consulted with User Support regarding problems with INGRES database system.
- Assisted local users with questions, gave tutorials.
- Worked with Jim Condon to help set up a data node at NRAO in Charlottesville.



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 September, 1993

### **DEVELOPMENT (Cont'd)**

#### **CASA**

#### **WORK IN PROGRESS AND PROJECTED COMPLETION DATES:**

(Note the projected completion dates for these tasks will be defined during the September project meetings when schedules are discussed.)

- Modifications to the core ADS system are in progress to include dynamic menu updates and user configurable quick buttons.
- Development work on the directory service continues.
- Development work on the the ADS File transfer service continues.

#### **ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:**

- A version of the ADS File Transfer service will be available for developers to start incorporating into their archive services. This includes the NDADS Archive and Einstein Plate Archive services.
- The Catalog Access service will start to incorporate the new SQLserver 2.0 function calls and the documentation services from mosaic. Work in integrating the coordinate conversion service and data dictionary services will also begin.
- The LRS Archive service will be completed.
- Task assignments for the ADS Developer's Guide will be sent out to members of the major nodes at IPAC, CASA, and SAO.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 September, 1993

## OPERATIONS

### ADS USER/USAGE STATISTICS:

	IPAC2	IUE	PSU	SAO	HEASRC	STSCI	CASA	EUVE
startup :	7	6	8	7	6	35	5	9
query :	228	21	25	250	52	142	130	14
schema :	214	21	25	247	51	141	122	14
retrieve :	1888	44	25	756	87	3165	1008	58
abort :	198	21	10	194	48	125	115	12
report :	1793	2125	1797	2133	1862	826	761	1225

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

### Abstracts

user	logins	queries	short	long	list
228	789	3194	17681	2950	39480

- users* - Number of distinct users using the abstract service
- logins* - Number of logins into the abstract service
- queries* - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).
- short* - Number of lines of short abstract information retrieved (authors and titles).
- long* - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 September, 1993

**SUPPLIERS OF DATA****CASA****TASKS ACCOMPLISHED:**

- Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 September, 1993

Achievement: \_\_\_\_\_ E. Olson (CEA/Berkeley)

**SUPPLIERS OF DATA (Cont'd)****CEA****TASKS ACCOMPLISHED:**

- Nothing to report.

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Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 September, 1993

Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

**SUPPLIERS OF DATA (Cont'd)****HEASARC/GSFC****TASKS ACCOMPLISHED:**

- Nothing to report.

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Mazzarella (IPAC)

Status as of: 1 September 1993

**SUPPLIERS OF DATA (Cont'd)**

**IPAC/CALTECH**

**TASKS ACCOMPLISHED:**

- Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ P. Lawton (IUE/GSFC)

Status as of: 1 September, 1993

### SUPPLIERS OF DATA (Cont'd)

#### IUE/GSFC

#### TASKS ACCOMPLISHED:

- IUE updated the IUELOG and IUEFES documentation and sent it to CASA.

#### WORK IN PROGRESS:

- Disk errors have reappeared on the CDC Sabre disk which contains the system software. The disk will probably need to be reformatted early next month.

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- The database of IUE Observing Proposals (IUEPROG) is currently being updated by the IUE Project and should be made available to the ADS next month.

#### ADS User/Usage Statistics:

##### August

- query	21	- startup	6
- retrieve	44	- withdraw	18
- schema	21	- shutdown	6
- status	21		
- abort	21	- query making users	10
- report	2125	- total users	18
- export	18	- new users	4
- export_failure	0		

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 September, 1993

**SUPPLIERS OF DATA (Cont'd)****PSU****TASKS ACCOMPLISHED:**

- Nothing to report.



**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ M. Garcia(SAO)

Status as of: 1 September, 1993

**SUPPLIERS OF DATA (Cont'd)**

**SAO**

**TASKS ACCOMPLISHED:**

- Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ A. Farris (STScI)

Status as of: 1 September, 1993

**SUPPLIERS OF DATA (Cont'd)****STScI****TASKS ACCOMPLISHED:**

- Nothing to report.

## **ADS Project activities for September 1992**

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Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 October, 1993

### SUMMARY

The project meeting in early September set priorities and schedules. The next release is now scheduled for 11 January 1994. This release will not include the new networking software. The release date for the new networking software is not yet determined.

Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 October, 1993

### ADMINISTRATIVE

#### TASKS ACCOMPLISHED:

The major event in September was the ADS project meeting in Boulder. During this meeting we discussed priorities in the project, the financial situation, and results of the testing of the new networking software. Since the new networking software was not advanced far enough for a release at the AAS meeting in January 1994, it was decided to go ahead with a release based on the old ANSA networking protocol. We discussed priorities for including new services, archives, and catalogs. The new release will have the new basic architecture that allows the incremental addition of services and catalogs. This should make the system much more flexible.

We obtained partial funding to keep the project going while we wait for the major part of the FY94 funding from NASA. The proposal for this is in preparation and should be at NASA later in October.

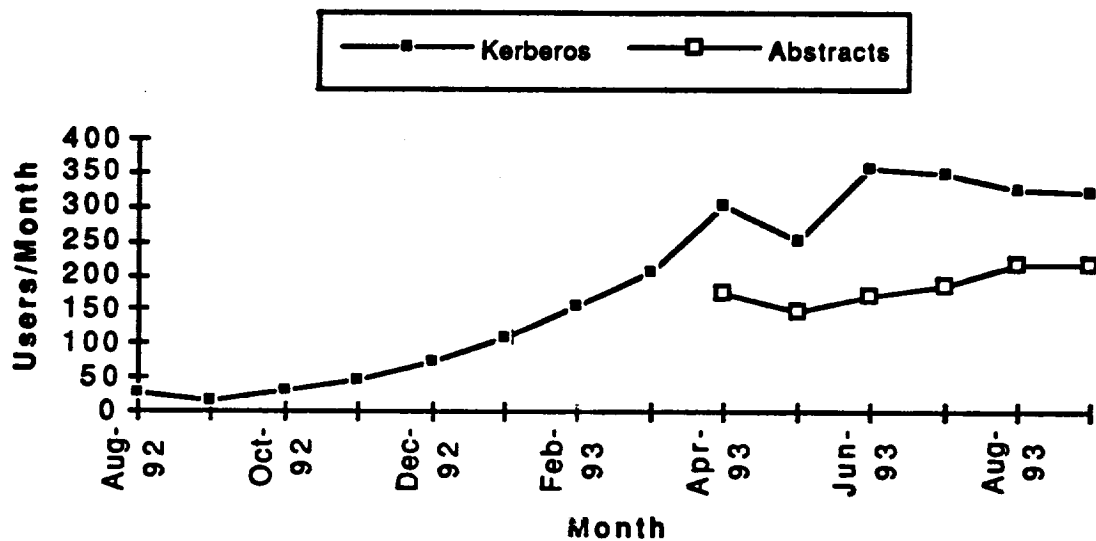
The AAS will not provide a separate room for demos during the AAS meeting in January. We will have to make do with our regular demos.

The following pages show the user and query statistics through September.

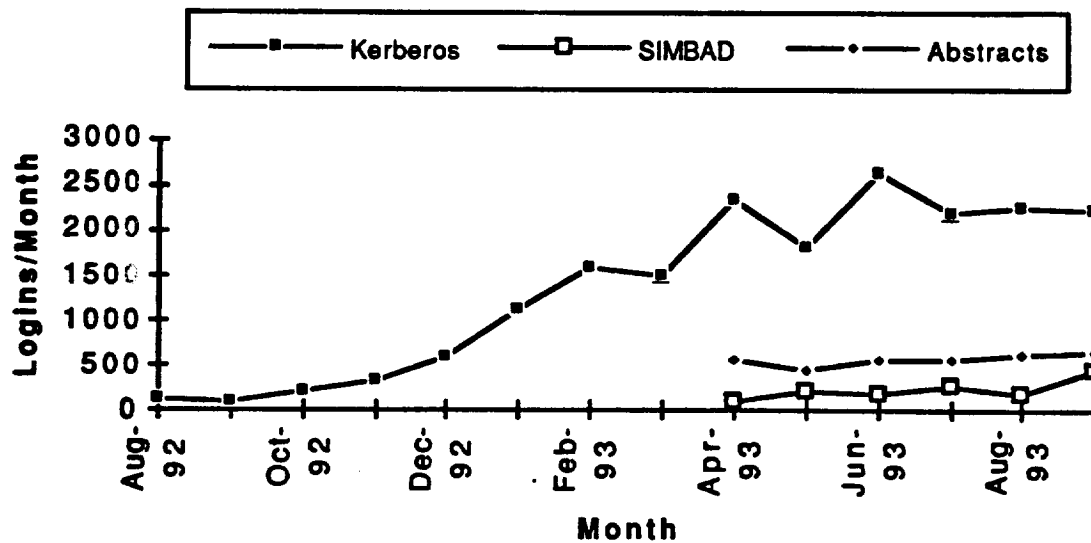
Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhom (SAO)

Status as of: 1 October, 1993

## Non-project Users

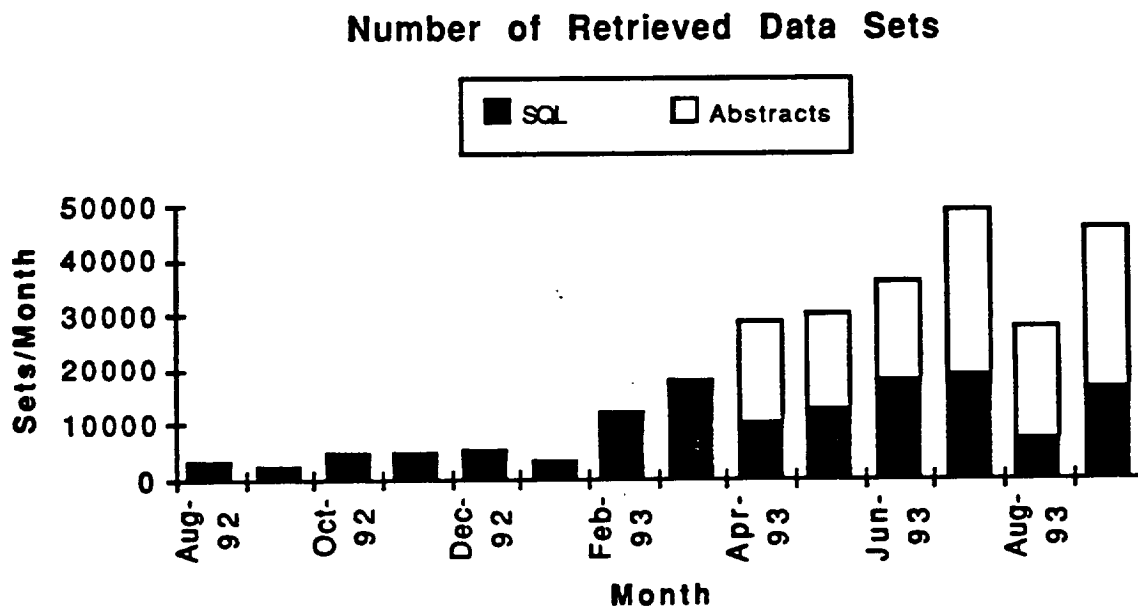
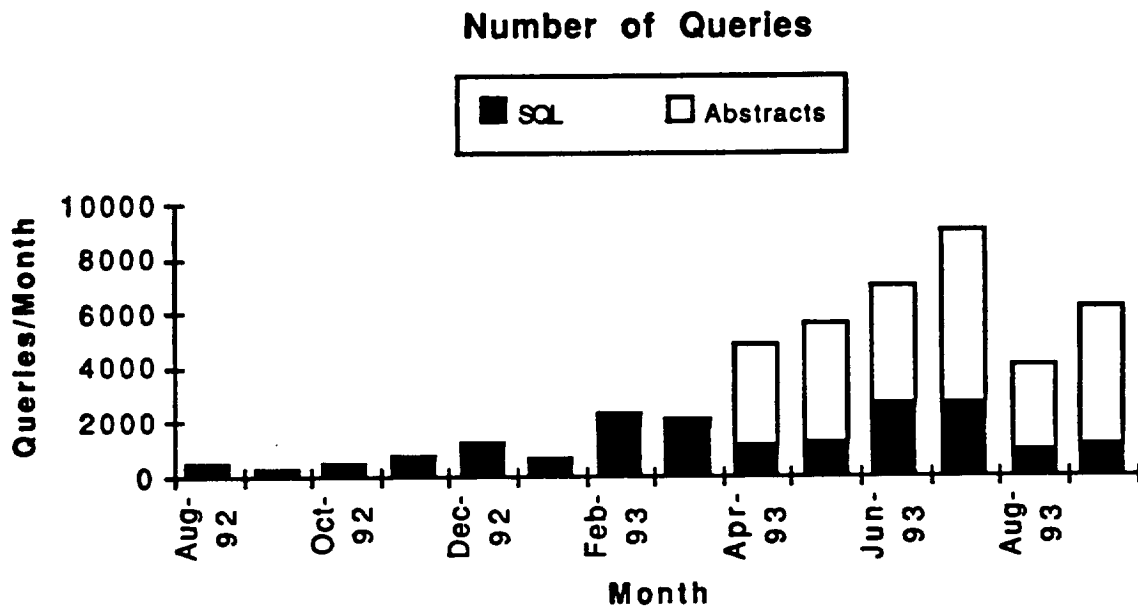


## Non-project Logins



Approved: \_\_\_\_\_ S. Murray  
Achievement: \_\_\_\_\_ G. Eichhorn (SAO)

Status as of: 1 October, 1993



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 October, 1993

### SYSTEM ENGINEERING

#### TASKS ACCOMPLISHED:

Implementation and testing of the IPAC tasks are proceeding. There were no substantive design updates to report. No major changes in the development task assignments to report.



Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 October, 1993

## USER SUPPORT

### CASA:

The month of September was spent on continued testing of the EOS 3.20 preliminary release. Development work continued on the core system, file transfer service, and catalog access service. Schedules, budgets, and CASA Statement-of-Work proposals were submitted to the project office at SAO.

#### CASA Project Management

The CASA ADS project management support is now using MicroSoft Project to help track our tasks and schedules. The tables enclosed in this report were generated using this software package. In the future, the CASA monthly status reports will be generated directly from the MicroSoft project software. The different headings in the report will correspond to the major tasks outlined in the CASA Statement-of-Work for the ADS contract. Detailed listings of development tasks will soon be cross-referenced with the '94 project proposal work breakdown structure. These headings include:

- User support
- Testing/QA
- System maintenance and integration
- Development
- Node Support
- Meetings
- CASA project management

### TASKS ACCOMPLISHED:

- User Support statistics for the month:
 

- New users:	75
- New US users:	42
- New non-US users:	33
- Total users as of 9/30/93:	1386
- Total US users as of 9/30/93:	1137
- Total non-US users as of 9/30/93:	249
- Information requests:	26
* answered questions: (includes "answered bin" and phone calls)	73
* resolved problems: (multiple messages for each of these)	13
- A follow-up email was sent to anyone requesting ADS info during the month of August.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 October, 1993

### **USER COMMITTEE**

#### **PSU:**

- Nothing to report

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 October, 1993

### USER SUPPORT (Cont'd)

#### CASA (cont'd):

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Work in Progress, Projected Completion Dates, Percent completed, and dependencies:

On-line Help text	1/11/94	50%
Hypertext-Core	10/30/93	90%
Hypertext-aboutads	11/22/93	0%
Hypertext-abstracts	10/30/93	95%
Hypertext-ddtool	1/31/94	0%
Hypertext-einstein	10/30/93	95%
Hypertext-install	1/11/94	0%
Hypertext-issa	1/11/94	0%
Hypertext Tutorial	12/31/93	0%
AAS Science Scenarios	1/11/93	1%
Mailing lists	on-going	
Advertising	on-going	
Update AAS tri-fold	1/11/93	1%
Astro.db - Ingres	1/31/94	0%
Update ADS Backdrop	12/24/93	0%
Front-line support	on-going	
User Statistics	on-going	
Edit users.tbl	1/31/94	0%
Edit readreg.pl	1/31/94	0%

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 October, 1993

### TEST AND QA

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Work in Progress, Projected Completion Dates, Percent completed, and dependencies:

EOS 3.25 Release	10/30/93	90%	
SQLserver 2.0	10/30/93	10%	EOS patch update
Coord. Conversion	10/30/93	10%	
ISSA Archive	10/15/93	25%	
Agra	1/31/94	25%	
EOSSERVER	10/30/93	80%	RPI/SMS
Security Services	10/30/93	0%	Kerberos Libraries
Secure File Transfer	10/30/93	0%	Kerberos Libraries, FTSERVER
RPI/SMS	1/31/94	0%	
SAOimage Tool	10/30/93	50%	
Core ADS - ADS4.00	12/31/93	20%	Development revisions
Skyview	10/30/93	70%	Fixed sms_local
EINSTEIN Archive	10/30/93	50%	FTtransfer fixes
NED	1/31/94	0%	New release from John
Catalog Access	1/11/94	0%	New release from Alice
Abstract Service	1/11/94	0%	New release from SAO
Log Handling Service	1/31/94	0%	Delivery from IPAC
Monitoring Service	1/31/94	0%	Delivery from IPAC
2-D Plot Service	1/31/94	0%	
Bug Reporting Service	1/31/94	0%	
QBT Service	1/31/94	0%	
ADS Directory Service	1/31/94	0%	
P-Cygni Archive	1/11/94	0%	
Catalogs	1/31/94	52%	
redshift	1/11/94	0%	
sao2000	1/11/94	0%	
seyfert	1/11/94	0%	
seyfert_ref	1/11/94	0%	
agk3	1/11/94	0%	
dmsort	1/11/94	0%	
saosort	1/11/94	0%	
rasort	1/11/94	0%	
selected	1/11/94	0%	
sbnr	1/11/94	0%	
rad_drao	1/31/94	0%	
rad_iras	1/31/94	0%	
rad_iras_brgal	1/31/94	0%	
parallax	1/31/94	0%	

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 October, 1993

### TEST AND QA (Cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

pln	1/31/94	0%	
reflect	1/31/94	0%	
gc	1/31/94	0%	
nlrt	1/31/94	0%	
nlrt_notes	1/31/94	0%	
acrs1	1/31/94	0%	
acrs2	1/31/94	0%	
hii	11/5/93	0%	
ppmn	11/5/93	0%	
ppms	11/5/93	0%	
openclus	11/5/93	0%	
interfer	11/5/93	0%	
findlist	11/5/93	0%	
findlist_rem	11/5/93	0%	
aps_poss (aps)	1/31/94	0%	
rc3	1/31/94	0%	IPAC to bring RC3 DB
wfcbrc (heasarc)	1/31/94	99%	Outstanding questions
rosao (heasarc)	1/31/94	95%	Outstanding questions
rospubrc (heasarc)	1/31/94	99%	Outstanding questions
abell (heasarc)	1/31/94	80%	Abell is same name
cosb (heasarc)	1/31/94	99%	Outstanding questions
bulletin (heasarc)	1/31/94	99%	Outstanding questions
konus (heasarc)	1/31/94	99%	Outstanding questions
rosid (heasarc)	1/31/94	99%	Outstanding questions
rosuspsrc (heasarc)	1/31/94	99%	Outstanding questions
td1 (heasarc)	1/31/94	99%	Outstanding questions
gs (heasarc)	1/31/94	10%	Waiting for docs
wds_nameidx (casa)	1/31/94	0%	
wds_namesort (casa)	1/31/94	0%	
wds_pos (casa)	1/31/94	0%	

#### PROBLEMS/CONCERNS:

- Delays in the final EOS 3.25 release will cause delays in some of the QA efforts because of delays in the development efforts. QA schedules will be updated as needed.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Stoner (ESI)

Status as of: 1 October, 1993

## SYSTEM INTEGRATION

### TASKS ACCOMPLISHED:

The primary work at Ellery during September has been to prepare and test a software updates for delivery to ADS QA at CASA:

- Clark Fishback held meetings with ADS personnel, did topdown, left-right tests, worked on the distributed processing manual and QA management.
- Randall Gaz worked on tracking down bugs in ADS applications and core software.
- Don Roberts did a full range of QA testing on ADS software.
- A version of software was delivered to ADS QA at CASA at the end of the month.

Other ADS support activities during the month included:

- Kyle Habermehl provided various support, testing and bug fix help as well as participated in ADS project conference calls through the month.
- Brett Milash worked on ADS bugs and also provided C-Lite programming support to SAO.
- Andrew Wang continued work on a non-DCE and non-ANSA RPC mechanism.
- Dennis Whalen did work on SQL problems and functionality.
- Jeff Stoner worked on a couple of ADS bugs.
- Project management, reporting and planning support were also done for the ADS by Geoff Shaw, Lowell Schneider, Jeff Jordan, Nathan Vanderhoofven, and Jeff Stoner.

### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- Software patch versions will be made available to ADS based on CASA QA testing until final acceptance.
- Development activity will continue to replace ANSA/ANSA-trader based EOS.
- Ongoing bug fixes and support to project as needed.
- Participation in discussions of new ADS services.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ S. Murray (SAO)

Status as of: 1 October, 1993

## DEVELOPMENT

### SAO

#### TASKS ACCOMPLISHED:

##### Abstract Service:

- Rewrote much of the keyword and word indexing software to consolidate and streamline the update process.
- Fixed bugs and maintained code.
- Responded to User Problems and Requests.
- Reloaded abstracts database to correct for problem of missing journal titles in the NASA abstracts. Began documentation of maintenance and update procedure for abstracts service.

##### Einstein Archive Service:

- Consulted with Einstein Project concerning documentation in MOSAIC that will eventually be part of the ADS.

##### SIMBAD Service:

- Continued to improve User Interface.
- Added more coordinate flexibility, improved performance.
- Wrote help text.

##### Mosaic Document Browser:

- Wrote a Development Initiative Proposal for this local service.
- Developed, tested the service and submitted to QA.

##### Text Search Service:

- Continued work on design of text search functionality for ADS.

##### AAVSO Node Support:

- Provided assistance to American Association of Variable Star Observers in putting data into ADS.

##### General:

- Added "STARCAT" xterm service capability to development version of ADS.
- Provided user support for abstract service questions.
- Attended ADS Project meeting
- Maintenance of HP workstation
- Set up an "SAO Developers' Home Page" in MOSAIC to facilitate collaboration with other ADS developers. Put documentation about current work in progress into the home page.
- Assisted Ellery Systems, Inc. with INGRES
- Investigated and reported EOS bug to Ellery Systems, Inc.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 October, 1993

### DEVELOPMENT (Cont'd)

#### CASA

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Work in Progress, Projected Completion Dates, Percent completed, and dependencies:

Catalog Access	1/11/94	2%	
Convert dsc files to html	11/22/93	0%	
Coordinate conversion	11/22/93	0%	
SQLserver 2.0 Integration	11/22/93	0%	
Data Dictionary Builder	1/11/94	11%	
Data Dictionary Integration	1/11/94	0%	
Mosaic/Doc Tool Incorp.	11/22/93	0%	
Developer's Guide	11/22/93	3%	
Coordination of Efforts	11/22/93	5%	
QA Policy Chapter	11/22/93	5%	
Help Text Guidelines	10/30/93	0%	
GUI design/implementation	11/22/93	10%	
NDADS Archive	1/11/94	60%	Transfer Monitor: EOSserver:Security Services: Secure File Transfer
Widget	11/22/93	50%	
Client CLite Library	1/11/94	100%	
EOSserver CLite Library	1/11/94	73%	
C Server Body	1/11/94	88%	
VAX Command File	1/1/94	75%	NSSDC staff effort
VAX ARMS Service	1/1/94	75%	NSSDC staff effort
Link to Security Services	10/30/93	0%	
Dynamic Project Update	11/22/93	0%	
Project - EID Help	11/22/93	0%	
Help Text	1/11/94	0%	
Transfer Monitor	1/11/94	57%	EOSserver: Security Services: Secure File Transfer
Widget	11/22/93	75%	
Client CLite Library	11/22/93	75%	
EOSserver CLite Library	11/22/93	75%	
FTserver, FTGET Server Body	10/30/93	0%	
Link to Security Services	10/30/93	0%	
Developers Guide Text	11/22/93	0%	
Help Text	1/11/94	0%	



Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 October, 1993

### DEVELOPMENT (Cont'd)

#### CASA (cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

Transfer Monitor II	1/31/94	0%	EOSserver: Security Services: Secure File Transfer
Widget	1/31/94	0%	
Client CLite Library	1/31/94	0%	
EOSserver CLite Library	1/31/94	0%	
FTserver, FTGET Server Body	1/31/94	0%	
Link to Security Services	1/31/94	0%	
Developers Guide Text	1/31/94	0%	
Help Text	1/31/94	0%	
EOSserver CLite Library	10/30/93	0%	Security Services
Generic Plot Tool	1/31/94	0%	SM: GKS: Transfer Monitor
Widget	1/31/94	0%	
Client CLite Library	1/31/94	0%	
SM or GKS Server Body	1/31/94	0%	
Table Calculator	1/31/94	0%	
IDL Server	1/31/94	0%	IDL:ASTRON:IUEDAC: Transfer Monitor
IUE Reprocessed Archive	1/31/94	0%	IDL:IUEDAC: Transfer Monitor
CASA IUE Archives - Misc X	1/31/94	0%	IDL:TOMSIPS: Transfer Monitor
Bug Server	1/31/94	0%	
Directory Service	1/31/94	0%	
Core ADS System	1/31/94	66%	
ADS Main Panel Modification	10/8/93	95%	
Quick Button Implementation	10/30/93	50%	Quick Buttons DIP
About ADS Widget	11/22/93	90%	Feedback on content
Install Service	11/19/93	0%	
remove calc & plot depend.	1/31/94	0%	
Cleanup_mem.sh	1/31/94	0%	
Serv. Dev/Ops Guide	11/22/93	5%	CSG
LRS Service	1/11/94	0%	
List Settings Widget	1/11/94	0%	
Table Editor	1/11/94	0%	
FITS Transfer	1/11/94	0%	

Approved: \_\_\_\_\_ Eichhorn  
Development: \_\_\_\_\_ Snow (CASA)

Status as of: 1 October, 1993

### DEVELOPMENT (Cont'd)

#### CASA (cont'd)

#### WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

DD Tool	9/30/93	25%	
DD Tables	9/30/93	85%	SQL Server 2.0
Text Retrieval	10/30/93	1%	Wais Server: Mosaic Server: ADS WWW Server

#### ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- A version of the ADS File Transfer service will be available for developers to start incorporating into their archive services. This includes the NDADS Archive and Einstein Plate Archive services.

Approved: \_\_\_\_\_ G. Eichhorn  
 Achievement: \_\_\_\_\_ J. Good (IPAC)

Status as of: 1 October, 1993

## OPERATIONS

### ADS USER/USAGE STATISTICS:

	IPAC2	IUE	PSU	SAO	HEASRC	STSCI	CASA	EUVE	NSSCD
startup :	2	14	3	5	4	2	1	4	7
query :	295	128	20	178	35	95	309	10	23
schema :	271	120	19	176	35	95	287	10	18
retrieve :	2861	496	63	516	58	3247	6643	29	2167
abort :	283	125	19	173	35	93	290	10	22
report :	2206	1424	1636	1630	1472	18	1420	621	1587

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

### Abstracts

user	logins	queries	short	long	list
226	729	5171	24860	4946	39420

- users* - Number of distinct users using the abstract service
- logins* - Number of logins into the abstract service
- queries* - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).
- short* - Number of lines of short abstract information retrieved (authors and titles).
- long* - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Revised: \_\_\_\_\_ T. Snow (CASA)

Status as of: 1 October, 1993

**SUPPLIERS OF DATA**

**CASA**

**TASKS ACCOMPLISHED:**

- Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn

Status as of: 1 October, 1993

Achievement: \_\_\_\_\_ E. Olson (CEA/Berkeley)

**SUPPLIERS OF DATA (Cont'd)****CEA****TASKS ACCOMPLISHED:**

- Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ P. Barrett (HEASARC/GSFC)

Status as of: 1 October, 1993

### SUPPLIERS OF DATA (cont'd)

#### HEASARC/GSFC

#### TASKS ACCOMPLISHED:

- The following catalogs were submitted to CASA this month:

BBXRT	- Broad Band X-ray Telescope Observation Catalog
ARIEL3	- 3rd Ariel Catalog of X-ray Sources
NORTH20CM	- 20cm Northern Sky Survey Catalog
RC3	- 3rd Reference Catalog of Bright Galaxies
ZCAT	- CfA Redshift Catalog

#### ANTICIPATED DELIVERIES FOR NEXT REPORTING PERIOD:

- The following catalogs are being prepared for submission to CASA:

HIC	- Hipparcus Input Catalog
ROSLTL	- ROSAT Long-Term Timeline
ROSSTL	- ROSAT Short-Term Timelines
UHURU4	- 4th Uhuru Catalog of X-ray Sources
BBURST	- CGRO/BATSE Gamma-ray Burst Catalog

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Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Mazzarella (IPAC)

Status as of: 1 October, 1993

**SUPPLIERS OF DATA (Cont'd)****IPAC/CALTECH****TASKS ACCOMPLISHED:**

- Nothing to report.

proved: \_\_\_\_\_ G. Eichhorn  
lievement: \_\_\_\_\_ P. Lawton (IUE/GSFC)

Status as of: 1 October, 1993

### SUPPLIERS OF DATA (Cont'd)

#### IUE/GSFC

##### TASKS ACCOMPLISHED:

- IUE reformatted the CDC Sabre disk which contains the system software.

##### WORK IN PROGRESS:

- The database of IUE Observing Proposals (IUEPROG) is currently being updated by the IUE Project and should be made available to the ADS next month.
- IUE is updating the IUELOG database.

##### ADS User/Usage Statistics:

###### September

- query	128	- startup	14
- retrieve	496	- withdraw	42
- schema	120	- shutdown	14
- status	124		
- abort	125	- query making users	13
- report	1424	- total users	19
- export	42	- new users	7
- export_failure	1		



Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ J. Nousek (PSU)

Status as of: 1 October, 1993

**SUPPLIERS OF DATA (Cont'd)****PSU****TASKS ACCOMPLISHED:**

- Nothing to report.

**SAO**

**ASTROPHYSICS DATA SYSTEM**

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ M. Garcia(SAO)

Status as of: 1 October, 1993

**SUPPLIERS OF DATA (Cont'd)**

**SAO**

**TASKS ACCOMPLISHED:**

- Nothing to report.

Approved: \_\_\_\_\_ G. Eichhorn  
Achievement: \_\_\_\_\_ A. Farris (STScI)

Status as of: 1 October, 1993

**SUPPLIERS OF DATA (Cont'd)****STScI****TASKS ACCOMPLISHED:**

- Nothing to report.

